

ENGINEERING DESIGN HANDBOOK

MILITARY PYROTECHNICS SERIES

PART FIVE - BIBLIOGRAPHY

HEADQUARTERS
UNITED STATES ARMY MATERIEL COMMAND
WASHINGTON, D.C. 20315

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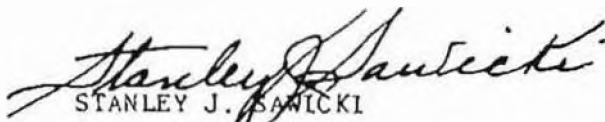
This pamphlet is published for the information and guidance of all concerned.

(AMCRD-R)

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PREFACE

The Engineering Design Handbook Series of the Army Materiel Command is a coordinated series of handbooks containing basic information and fundamental data useful in the design and development of Army materiel and systems. The handbooks are authoritative reference books of practical information and quantitative facts helpful in the design and development of Army materiel so that it will meet the tactical and the technical needs of the Armed Forces.

This handbook, *Military Pyrotechnics, Part Five, Bibliography*, is a supporting handbook for all of the handbooks in the Pyrotechnics Series. It contains a rich source of references, in addition to those specifically listed in the other handbooks of this Series.

Material for this handbook was compiled by the Denver Research Institute of the University of Denver while in the process of preparing the manuscript for *Military Pyrotechnics, Part One, Theory and Application*. Noteworthy in the collection of this source material was the diligent pursuance of Mrs. Alta Morrison of the Denver Research Institute. This material was collected for the Engineering Handbook Office of Duke University, prime contractor to the U. S. Army Research Office-Durham.

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INTRODUCTION

ORGANIZATION

The bibliography is composed of selected references to source material of particular value in the field of military pyrotechnics. Material available at mid-year 1964 was included in the search.

The bibliography is organized into two main sections: references from the open literature and documents such as reports and memoranda prepared and issued by public and private agencies and organizations. The former references are listed by author, whereas the latter are listed by source installation and alphabetized according to report title; document numbers, authors, dates and numbers assigned at the Defense Documentation Center are given to the extent that these are known. In many cases all of this information was not available and the entry, therefore, is incomplete to such extent.

AVAILABILITY

Defense Documentation Center numbers are given for all documents for which the numbers were available. Documents listed but not identified with DDC numbers may be on file at the Center and inquiry should be directed there. Documents not available through DDC may be requested from the source agency.

CLASSIFICATION

Documents listed in the bibliography include some which carried security classification when issued. Because of changing categories, it is not practical to include the security classification. Prospective users may, therefore, be required to establish security clearance and need to know to obtain some material.

OPEN LITERATURE

- R. J. Ackermann, R. J. Thorn, "Reactions Yielding Volatile Oxides at High Temperatures," *XVI Congres International de Chemie Pure et Appliquee*, Paris, 1957.
- H. C. Andersen, L. H. Belz, "Burning Time and Ignition-Temperature Apparatus for Metal Powders," *Review of Scientific Instruments* **24**, 1004 (1953).
- L. F. Anderson, "New Combustible for Photoflash Lamps," *Illumination Engineering* **53**, 657-63 (1958).
- R. M. Anderson, "Photoflash Technology Hits Its Stride," *General Electric Review* **59**, 54-57 (1956).
- Anonymous, "Principles of Smoke Production," *Chem. Warfare* **23**, 71-5 (1937).
- E. J. Badin, "Oxidation of Metal Alkyls and Related Compounds," *Third Symposium on Combustion, Flame and Explosion Phenomena*, Williams and Wilkins Co., Baltimore, 1949, pp. 386-389.
- M. D. Bannus, J. J. McSharry, *Increasing the Burning Rate of Metal Powders*, U. S. Patent No. 2,688,575, Sept. 7, 1954.
- J. L. Barton, H. Bloom, "The Molecular Weight of Sodium and Potassium Chloride Vapors," *Journal of Physical Chemistry* **63**, 1785 (1959).
- C. Berger, *The Dependence of Visual Acuity on Illumination and its Relation to the Size and Function of the Retinal Unit*, *American Journal of Psychology* **54**, 336-352 (1941).
- R. A. Bird, H. E. Edgerton, F. W. Miehe, *Flash-tube Efficiency*, *Photogrametric Engineering* **7**, 26-31 (1956).
- L. P. Bowden, A. D. Yoffe, *Initiation and Growth of Explosion in Liquids and Solids*, Cambridge University Press, Cambridge, Mass., 1952.
- B. J. Brettler, H. L. Smith, *A Discussion of Photometers Concepts and Units*, Edgerton Germe-shausen and Grier, Inc., Boston.
- Leo Brewer, *The Dissociation Energies of Gaseous Alkali Halides*, University of California, Berkeley, Calif., 1960.
- Leo Brewer, Gerd M. Rosenblatt, *Dissociation Energies of Gaseous Metal Dioxides*, University of California, Berkeley, Calif., 1960.
- L. Brewer, W. Searcy, "High Temperature Chemistry," *Annual Review of Physical Chemistry* **7**, 259-286 (1956).
- Leo Brewer, James S. Kane, "The Importance of Complex Gaseous Molecules in High Temperature Systems," *Journal of Physical Chemistry* **29**, 105 (1955).
- Leo Brewer, Donald F. Mastick, "The Stability of Gaseous Diatomic Oxides," *Journal of Chemical Physics* **19**, 834-843 (1951).
- L. Brewer, "The Thermodynamic Properties of the Oxides and their Vaporization Processes," *Chemical Review* **52**, Feb. 1953.
- H. F. Britt, *Forming Smoke for Military Purposes*, U.S. Patent 2,331,635, 1923.
- Alan St. H. Brock, *A History of Fireworks*, George G. Harrap and Co., Ltd., London, 1922.
- G. C. Brock, *Physical Aspects of Aerial Photography*, Longmans, Green and Company, 1952.
- F. G. Brockman, "The Nature of the Light Emitter in Photoflash Lamps," *Journal of the Optical Society of America* **37**, 652-659 (1947).

- Wallace R. Brode, *Chemical Spectroscopy*, John Wiley and Sons, New York, 1943.
- Bulewicz and Sugden, "Determination of the Dissociation Constants and Heats of Formation of Molecules by Flame Photometry Part Stability of MgO and MgOH," *Transactions of the Faraday Society* **55**, 720 (1959).
- R. D. Cadle, *Particle Size Determination*, 2nd rev. ed., Interscience Publication, Inc., New York, 1960.
- H. M. Cassel, A. K. Das Gupta, S. Guruswamy, "Factors Affecting Flame Propagation through Dust Clouds," *Third Symposium on Combustion and Flame and Explosion Phenomena*, Williams and Wilkins Co., Baltimore, 1949, pp. 185-90.
- H. M. Cassel, I. Liebman, W. K. Mock, "Radiative Transfer in Dust Flames," *Sixth Combustion Symposium*, Reinhold, New York, 1957, pp. 602-605.
- B. F. Chartier, *Tests to Determine Intensity of Illumination Required on a Night Photogrammetric Range Located at Eglin AFB, Florida*, U.S. Government Research Report, PB120202.
- The Chemical Corps Association, *Chemical Warfare Service in World War II*, Reinhold, New York, 1948.
- W. D. Chesterman, *The Photographic Study of Rapid Events*, Clarendon Press, Oxford, 1951.
- D. Cibocoptto, "The Oxidation of Zirconium at High Temperatures," *Journal of the American Chemical Society* **72**, 4134-41 (1950).
- S. Claeson, L. Lindquist, "Fast Photolysis Flashlamp for Very High Light Intensities," *Battelle Technical Review* **7**, 481 (1958).
- K. P. Coffin, "Some Physical Aspects of the Combustion of Magnesium Ribbons," *Fifth Combustion Symposium*, Reinhold, New York, 1955, pp. 267-276.
- Gunther Cohn, *Reactions in the Solid State*, Chemical Reviews **42** (1948).
- W. M. Conn, "Use of Exploding Wires as Light Sources of Very High Intensity and Short Duration," *Journal of the Optical Society of America* **41**, 445-49 (1951).
- H. Cotton, *Principles of Illumination*, John Wiley and Sons, New York, 1960.
- P. Coughlin, "Contributions to the Data on Theoretical Metallurgy, XII. Heats and Free Energies of Formation of Inorganic Oxides," *Bureau of Mines Bulletin* **542**, 80 (1954).
- Benedict Crowell, *America's Munitions, 1917-1918*, Government Printing Office, Washington, D. C., 1919.
- J. Cueilleron, H. Scartazzini, "Combustion of Aluminum in Oxygen," *Comptes Rendus* **228**, 489-490 (1949); **230**, 97-98 (1950).
- D. S. Datar, V. T. Athavale, S. K. K. Jatkari, "Reactions of Chromate at High Temperatures, Part VII. The 25% State of the Decomposition of Chromates of Calcium, Strontium, and Barium," *Journal of Industrial Institute of Science* **I**, 111-8 (1939); "Part IX. Thermal Decomposition of Chromium Trioxide," *Journal of Industrial Institute of Science* **II**, 119-36 (1939).
- T. L. Davis, *Chemistry of Powder and Explosives*, John Wiley and Sons, New York, 1943.
- R. De Salin, "Combustion of Aluminum in Air," *Comptes Rendus* **234**, 2437-2439 (1952).
- A. R. Downie, R. F. Barrow, "Silicon Flame Bands," *Nature* **160**, 198 (1947).
- G. Drummond, R. F. Barrow, "Thermochemical Dissociation Energies of Gaseous Calcium, Strontium and Barium Oxides," *Transactions of the Faraday Society* **47**, No. 348, Part 12 (1951).
- W. Dziobek, "Die Farhtemperatur des Magnesiumlichts," *Zeitschrift fur Wissenschaftliche Photographie* **25**, 287-290 (1928).
- J. M. Eder, "Die Aktinitat und die Farbtemperatur des (on der) Luftbrennender Magnesiumbandes und des Magnesiumblitzlichtes," *Zeitschrift fur Wissenschaftliche Photographie* **24**, 423 (1927).

11. E. Edgerton, R. Bonzali, J. T. Lamb, "Duration and Peak Candlepower of Some Electronic Flashlamps," *Journal of the Society of Motion Picture and Television Engineers* **63**, 15-18 (1954).
- Herbert Ellern, *Modern Pyrotechnics*, Chemical Publishing Co., N. Y., 1961.
- Erway and Seifert, "Vapor Pressure of Beryllium Oxide," *Journal of Electrochemical Society* **98**, 83 (1951).
11. B. Farber, *Military Pyrotechnics, Vol. I, The History and Development of Military Pyrotechnics*, Government Printing Office, Washington, D. C., 1919.
- Fahrenheit, *Report on the Decomposition of Super Saturated Solid Solution of Mg Alloy*, Wintershall AG, Kassel, Aug. 1943, DDC-ATI 20 022.
- M. Farber, "Thermodynamics of Al_2O_3 ," *Jet Propulsion* **28**, 760-762 (1958).
- W. M. Fassel, Jr., L. B. Gulbransen, J. R. Lewis, J. H. Hamilton, "Ignition Temperatures of Magnesium and Magnesium Alloys," *Journal of Metals* **3**, 522-528 (1951).
- F. Feigh, L. I. Miranda, H. A. Suter, "The Direct Reaction of Solids," *Journal of Chemical Education* **21**, 18-24, 32 (1944).
- H. H. Ferguson, T. P. H. McKellar, "The Influence of Chromatic Light Stimulation on the Subsequent Rate of Perception under Conditions of Low Illumination," *British Journal of Psychology* **34**, 81-88 (1944).
- G. I. Finch, F. R. S. Sinha, K. P. Sinha, "On Reaction in the Solid State," *Proceedings of the Royal Society, A* **239**, 145-153 (1957).
- W. E. Forsythe, M. A. Easley, "Characteristics of the General Electric Photoflash Lamp," *Journal of Optical Society of America* **21**, 685-689 (1931).
- W. E. Forsythe, M. A. Easley, "Time Intensity Relation and Spectral Distribution of the Radiation of Photoflash Lamps," *Journal of Optical Society of America* **24**, 195-197 (1934).
- Frohlich and Wills "Heats of Reaction and Rates of Burning," *Journal of the Society of Chemical Industries (London)* **68**, 348-355 (1949).
- A. Gaydon, H. G. Wolfhard, *Flames, Their Structure, Radiation and Temperature*, Chapman and Hall, Ltd., London, 1960.
- W. E. Gibbs, *Clouds and Smokes*, P. Blakisten's and Son, 1924.
- P. A. Giguera, "Revised Values of the O—O and the O—H Bond Dissociation Energies," *Journal of Chemical Physics* **30**, 322 (1959).
- A. Gillies, "Sensitivity of Calcium Silicide Smoke Mixtures to Static Electrical Discharge," *Canadian Journal of Research*, March 1948.
- A. Glasner, *The Thermochemical Properties of the Oxides, Fluorides and Chlorides to 2500° K*, Atomic Energy Commission, ANL-5750, 1957, p. 70.
- S. Glasstone, D. Lewis, *Elements of Physical Chemistry*, D. Van Nostrand Co., Inc., N. Y., 1960.
- S. Glasstone, *Textbook of Physical Chemistry*, D. Van Nostrand Co., Inc., N. Y., 1946.
- S. Glasstone, K. J. Laidler, H. Eyring, *The Theory of Rate Processes*, McGraw-Hill Book Co., Inc., New York, 1941.
- H. Goldschmidt, E. P. Partridge, A. Schaack, Translators, *Industrial Heat Transfer*, John Wiley and Sons, Inc., New York, 1933.
- E. L. Gooden, C. M. Smith, *Industrial and Engineering Chemistry*, Analytical Edition, Vol. 12, 1940.
- S. Gordon, "High Temperature Chemistry as Applied to Metal-Based Propellants," *Jet Propulsion* **28**, 769-770 (1958).
- S. Gordon, C. Campbell, "Pre-Ignition and Ignition Reactions of the Pyrotechnic System $Al-C_5Cl_6-KClO_4$," *Fifth Symposium on Combustion*, Rheinhold Publishing Co., New York, 1955.

- L. F. Gowen, E. E. Elzufon, "Closed Bomb and Gun Studies of Various Metal Oxidant Mixtures as Igniters for Propellants," *Bulletin of the First Symposium on Solid Propellant Ignition*, Sept. 1953.
- H. L. Green, W. R. Lane, *Particulate Clouds: Dusts, Smokes and Mists*, D. Van Nostrand Co., London, 1957.
- A. V. Grosse, J. B. Conway, "Combustion of Metals in Oxygen," *Industrial and Engineering Chemistry* **50**, 663-672 (1958).
- A. V. Grosse, "The Production of High Temperature by Chemical Means and Particularly by the Combustion of Metals," *Proceedings of the Symposium on High Temperature—a Tool for the Future, June 25-27, 1956*, Stanford Research Institute, 1956, pp. 59-68.
- E. A. Gulbransen, "Kinetic and Structural Factors Involved in Oxidation of Metals," *Industrial and Engineering Chemistry* **41**, 1385-1391 (1949).
- Hardy and Perrin, *The Principles of Optics*, McGraw-Hill Book Co., New York, 1932.
- P. L. Harrison, "Combustion of Titanium and Zirconium," *Seventh Combustion Symposium*, Rheinhold, New York, 1959, p. 931.
- D. Hart, "Pyrotechnic Delays," *Second Fuze Symposium*, sponsored by Diamond Ordnance Fuze Laboratories and Samuel Feltman Ammunition Laboratories, 14 March 1956.
- I. Hartmann, "Explosibility of Dust Dispersions," *Industrial Engineering Chemistry* **40**, 752-8 (1948).
- I. Hartmann, W. P. Greenwald, "The Explosibility of Metal Powder Dust Clouds," *Mining and Metallurgy* **26**, 331-335 (1945).
- I. Hartmann, J. Nagy, H. R. Brown, "Explosibility of Metal Powders," *Metal Progress* **45**, 886-7, 930-4 (1944).
- I. Hartmann, et al., *Inflammability and Explosibility of Metal Powders*, Bureau of Mines Report of Investigations, 1943.
- I. Hartmann, "Recent Research on the Explosibility of Dust Dispersions," *Industrial and Engineering Chemistry* **40**, 752-758 (1948).
- J. A. Hedvall, "Changes in Crystal Structure and their Influence on the Reactivity and Catalytic Effect of Solids," *Chemical Reviews* **15**, 139-68 (1934).
- J. A. Hedvall, "The Reactivity of Solids," *Journal of Chemical Education*, Dec. 1953, pp. 638-40.
- J. A. Hedvall, "Reactions in the Solid State," *Kolloid-Zeitschrift* **88**, (2), 224 (1939).
- J. A. Hedvall, "Sintering and Reactivity of Solids," *Ceramic Age*, Feb 1955, pp. 13-17.
- H. Helson, "Color Constancy, Conversion, Contrast, and Adaptation," *Psychology Bulletin* **35**, 672-673 (1938).
- G. Herdan, *Small Particle Statistics*, 2nd ed., The Elsevier Press, New York, 1960.
- R. A. W. Hill, T. L. Cottrell, "Studies of Combustion Waves in Solids," *Fourth Combustion Symposium*, Williams and Wilkins Co., Baltimore, 1953.
- R. A. W. Hill, L. E. Sutton, R. B. Temple, A. White, "A Study of Slow Self-Propagating Reactions in Solids," *London* **3**, 569-76 (1950).
- C. N. Hinshelwood, E. J. Bowen, "The Influence of Physical Conditions on the Velocity of Decomposition of Certain Crystalline Solids," *Proceedings of the Royal Society (London)* **99A**, 203-212 (1922).
- C. N. Hinshelwood, E. J. Bowen, "The Rate of Chemical Reaction in the Crystalline State," *Philosophical Magazine* **40**, 569-578 (1920).
- J. G. Holmes, "Recognition of Coloured Light Signals," *Transactions of American Illumination Engineering Society* **6**, pp. 71-97.
- S. G. Holmes, J. G. Holmes, "Recognition of Colored Light Signals," *Nature* **147**, 423-424 (1941).
- M. T. Howerton, *Engineering Thermodynamics*, D. Van Nostrand Co., Inc., N. Y., 1962.

- Lennart Hultdt, Albin Lagerqvist, *The Dissociation Energies of the Alkaline Earth Oxides*, Band 2 Nr 31, Almqvist and Wiksells Boktryckeri AB, Stockholm.
- M. G. Inghram, J. Drowart, "Mass Spectroscopy Applied to High Temperature Chemistry," *International Symposium on High Temperature Technology*, Asilomar, California, Oct. 6-9, 1959, arranged by Stanford Research Institute.
- Joehnk, "Russian 2-em High Explosive Incendiary Shell," *E'Stelle Rechlin*, Aug. 1941, DDC-ATI 39 162.
- L. A. Jones, H. R. Condit, "The Brightness Scale of Exterior Scenes and the Computation of Correct Photographic Exposure," *Journal of the Optical Society of America* 31, 651-678 (1941).
- R. Jonnard, R. Taillie, H. Vial, "Mesure de l'Acuté Visuelle en Fonction de quelques Contrastes en Lumiere Coloree," *Travail Hum.* 5, 306-316 (1937).
- W. Jost, *Explosion and Combustion Processes in Gases*, McGraw-Hill Book Co., Inc., New York, 1946.
- H. S. Kalish, "Pyrophoricity and Toxicity of Metal Powders," Speech before Powder Metallurgy Committee, AIME, New York Section, Nov. 1959.
- H. C. Kaweck, *High-Purity Beryllium Oxide*, U.S. Patent No. 2,647,821, Aug. 4, 1953; *Chemical Abstracts* 47, 11678 (1953).
- W. D. Kingery, "Oxides for High Temperature Applications," *International Symposium on High Temperature Technology*, Asilomar, California, Oct. 6-9, 1959, arranged by Stanford Research Institute.
- B. E. Kleber, E. I. Byrnes, "Make Smoke," *Armed Forces Chemical Journal*, 6 April 1943.
- T. Knacke, W. Rupe, *Incendiary Flare Bomb with Ribbon Parachute*, Forschungsanstalt Graf Zeppelin, Stuttgart, Nov. 1943, DDC-ATI 22 602.
- Harwood G. Kolsky, Ruth M. Gilmer, Paul W. Gilles, "Free Energy Functions for 54 Gaseous Elements," *Journal of Chemical Physics* 24, 494-495 (1957).
- B. Kopelman, V. B. Compton, "Spontaneous Combustion of Metal Powders," *Metal Progress* 63, 77-9 (1953).
- F. A. Kroger, F. H. Stielthes, H. J. Vink, "Thermodynamics and Formulation of Reactions Involving Imperfections in Solids," *Phillips Research Reports* 14, 557-601 (1959).
- R. Kronig, Ed., *Textbook of Physics*, Pergamon Press, Ltd., 1954.
- O. Kubaschewski, J. A. Catterall, *Thermochemical Data of Alloys*, Pergamon Press, New York, 1956.
- O. Kubaschewski, B. E. Hopkins, *Oxidation of Metals and Alloys*, Academic Press, New York, 1953.
- Keith J. Laidler, *Chemical Kinetics*, McGraw-Hill Book Co., Inc., New York, 1950.
- R. K. Laird, W. H. Francis, M. P. Tahany, *Spectrographic Investigation of Metallic Combustion*, Theses, Oxford University, 1947.
- M. Laporte, "High Power Photo Flash Tubes," *Nature* 168, 552 (1951).
- J. D. Lash, G. F. Prideaux, "Visibility of Signal Lights," *Illumination Engineering* 38, 481-492 (1943).
- W. Leo, "Determination of the Color Temperature of Photoflash Lamps," *Zeitschrift fur Angewandte Photographie in Wissenschaft und Technik* 4, 3-6 (1942).
- B. Lewis, and G. von Elbe, *Combustion, Flames and Explosions of Gases*, Academic Press, Inc., New York, 1961.
- B. Lewis, R. M. Pease, H. S. Taylor, *Combustion Processes*, Princeton University Press, 1956.
- G. N. Lewis, M. Randall, *Thermodynamics*, 2nd Ed., Revised by K. Pitzer, L. Brewer, McGraw-Hill Book Co., Inc., New York, 1961.
- L. Line, Jr., W. J. Clark, J. C. Rahman, "An Apparatus for Studying the Burning of Dust Clouds," *Sixth Combustion Symposium*, Rheinholt, New York, 1957, pp. 779-786.

- E. R. Lippincott, R. Schroeder, D. Steele, "Dissociation Energies of Diatomic Molecules," *Journal of Chemical Physics* **34**, 1448-1449 (1961).
- E. R. Lippincott, D. Steele, P. Caldwell, "General Relation between Potential Energy and Inter-nuclear Distance for Diatomic Molecules. III. Excited States," *Journal of Chemical Physics* **35**, 123-141 (1961).
- B. F. Logan, H. E. Edgerton, "Characteristics of a Flashtube for Aerial Night Reconnaissance," *Photogrametric Engineering* **6**, 110-5 (1955).
- J. Lorrell, H. Wise, "Burning of Liquid Droplets with Finite Reaction Kinetics," *Journal of Chemistry and Physics*, April 1956.
- M. Luckiesh, F. K. Moss, "Brightness Contrasts in Seeing," *Illumination Engineering* **34**, 571-597 (1939).
- M. Luckiesh, F. K. Moss, "Quantitative Relations between Light and Visibility," *American Journal of Ophthalmology* **19**, 488-497 (1942).
- M. Luckiesh, A. H. Taylor, "Visual Acuity at Low Brightness Levels," *American Journal of Ophthalmology* **27**, 53-57 (1944).
- J. Marsel, L. Kramer, "Spontaneous Ignition Properties of Metal Alkyls," *Seventh Combustion Symposium*, Rheinhold, New York, 1959, p. 906.
- John A. Martin, "Combat Smoke in Korea," *Armed Forces Chemical Journal*, 7 Oct. 1953.
- J. E. O. Mayne, *The Protective Action of Lead Compounds*, 1946.
- W. H. McAdams, *Heat Transmission*, McGraw-Hill Book Co., Inc., New York, 1942.
- D. E. McDonald, "Air Photography," *Journal of the Optical Society of America* **43**, 290-298 (1953).
- H. J. McNicholas, "Selection of Colors for Signal Lights," *National Bureau of Standards Journal of Research* **17**, 955-980 (1936).
- G. A. Mead, "Relation of Droplet Consumption Rates to Liquid Strand Consumption Rates," *ARS Journal* **29**, 440 (1959).
- G. H. Messerly, A. W. Campbell, *High Intensity Flash Bulb*, U. S. Patent No. 2,764,094, Nov. 1946.
- W. E. Middleton, Knowles, *Visibility in Meteorology*, 2nd Ed., University of Toronto Press, 1941.
- W. E. K. Middleton, *Vision through the Atmosphere*, University of Toronto Press, 1952.
- Thomas A. Milne, Daniel Cubicciotti, "Calculation of the Energies of Some Alkali Halide Primers," *Journal of Chemical Physics* **30**, 1625-1626 (1959).
- E. Morrill, "Incendiary Mixtures," *Encyclopedia Britannica* **12** (1952).
- N. F. Mott, "Reactions in Solids," *Physics Society, London* **6**, 186-211 (1940).
- R. S. Mulliken, "Some Neglected Subcases of Pre-dissociation in Diatomic Molecules," *Journal of Chemical Physics* **33**, 247-252 (1960).
- M. F. Murphy, Speech Delivered at Naval Ordnance Laboratory Pyrotechnic Symposium, 21-22 Oct. 1959.
- S. Nakahara, "Studies on Delay Powders: 1. Measurement of Temperature of Combustion of Delay Powders," *Industrial Explosives Society Journal*, 1958.
- S. Nakahara, T. Hikita, "Studies on Delay Powders, 2. The Combustion Pressure of Delay Powders," *Industrial Explosives Society Journal*, 1958.
- S. Nakahara, Shoji, T. Hikita, Tsutomu, "Studies on Delay Powders: 3. On Mechanism of Delay Powders," *Industrial Explosives Society Journal*, 1958.
- S. Nakahara, "Studies on Delay Powders: 4. Theory of Combustion Propagation Velocity of Delay Powders," *Industrial Explosives Society Journal*, 1958.

- W. A. Noyes, Jr., Ed., *Chemistry* (Science in World War II Series), Little, Brown and Co., N. Y., 1948.
- B. O'Brien, T. A. Russell, "Spectral Energy Distribution, Temperature and Color Temperature of the Magnesium Flame in Air," *Journal of the Optical Society of America*, Optical Society of America Cambridge Meeting, Oct. 13, 1932.
- T. C. O'Hart, *Elements of Ammunition*, John Wiley and Sons, New York, 1950.
- H. N. Olsen, W. S. Huxford, "Electrical and Radiation Characteristics of Flashlamps," *Journal of the Society of Motion Picture and Television Engineers* **55**, 285-98 (1950).
- Giuseppe Parravano, "Reactions in the Solid State," *Chemical and Engineering News*, 19 March 1962.
- R. W. Parry, D. R. Schultz, P. R. Giradot, "The Preparation and Properties of Hexamminecobalt (III) Borohydride, Hexamminechromium (III) Borohydride and Ammonium Borohydride," *Journal American Chemical Society* **80**, 1-3 (1958).
- J. R. Partington, *A History of Greek Fire and Gunpowder*, Heffer and Sons, Cambridge, Gr. Br., 1960.
- S. Paterson, "Source of Light Recorded in Photographs of Detonating Explosives," *Nature* **167**, 479 (1951).
- Robert J. Peayler, Alan W. Searcy, "Dependence of Dissociation Pressure Measurements by the Knudsen Effusion Method on Effusion Hole Area, the Dissociation Pressure of Mo_3Ge ," *Journal of American Chemical Society* **78** (1956).
- S. S. Penner, "The Emission of Radiation from Diatomic Gases. I. Approximate Calculations," *Journal of Applied Physics* **21**, July 1950.
- S. S. Penner, "Emissivity Calculations for Diatomic Gases," *Journal of Applied Mechanics*, March 1951.
- S. Penner, M. Goldsmith, "On the Burning of Single Drops of Fuel in an Oxidizing Atmosphere," *Jet Propulsion* **24**, 245 (1954).
- J. H. Perry, *Chemical Engineer's Handbook*.
- R. F. Porter, D. A. Dows, "Blue Emission from the Vapor of Burning Boron," *Journal of Chemical Physics* **24**, 1270-1271.
- Richard F. Porter, C. W. Spencer, "Stabilities of the Gaseous Molecules, BiSe , BiTe , and SbTe ," *Journal of Chemical Physics* **32**, 943-944 (1960).
- A. M. Prentiss, *Chemicals in War*, McGraw-Hill Book Co., New York, 1937.
- H. O. Pritchard, *The Kinetics of Dissociation of a Diatomic Gas*, *Journal of Physical Chemistry* **65**, 504 (1961).
- Proceedings of the Symposium on High Temperature—a Tool for the Future, June 25-27, 1956*, Stanford Research Institute and University of California, Berkeley, Calif. 1956.
- Arthur B. Ray, "Production of Colored Smoke Signals," *Industrial and Engineering Chemistry* **18** (1926).
- E. M. Rhub, *Pyrophoric Thorium Alloys*, Forschungsinstitut und Probieramt fuer Edelmetalle, Schwach, Gmuend, Sept. 1943, DDC-ATI 63 888.
- William P. Rieman, Daniels, Farrington, "Kinetics of Solid State Reaction of Silver Sulfate with Calcium and Strontium Oxides," *Journal of Physical Chemistry* **61**, 802 (1957).
- G. A. W. Rutgers, J. C. De Vos, "Relation between Brightness, Temperature, True Temperature, and Colour Temperature of Tungsten: Luminance of Tungsten," *Physica* **20**, 715-20 (1954).
- Samuel Sage and R. W. Evans, "Pyrotechnic Research Comes of Age," *Ordnance Magazine*, American Ordnance Association.
- K. F. Sawyer, "Screening Smokes," *Thorpe's Dictionary of Applied Chemistry*, 4th Ed., Vol. X, Longmans and Green, London, p. 781.

- R. Schall, O. Shulze, *A Short Time Fuse Requiring Little Energy*, Universitaet Berlin Physikalisches Institut, DDC-ATI 45 986.
- G. J. Schlacht, "Signal and Illuminating Flare Ammunition for Military Purposes and Visible Range Studies of Army Signals," *Illum. Eng. Soc.* **25**, 742-7 (1930).
- F. V. Schossberger, "Solid-State Chemistry Gives Insight into Crystal Behavior," *Journal of Chemical Engineering*, Nov. 13, 1961.
- S. Schreier, *The Effect of a Condensed Exhaust Phase on Rocket Performance*, Thesis, Princeton University, 1956.
- D. W. Scott, "Thermochemistry and Thermodynamic Properties of Substances," *Annual Review of Physical Chemistry* **6**, 1-24 (1955).
- J. M. Segal, "Study of High Intensity Light Sources," *Illumination Engineering* **50**, 259-62 (1955).
- E. W. H. Selwyn, "The Limit of Visual Resolution," *Proceedings of the Physics Society (London)* **55**, 286-291 (1943).
- R. G. S. Sewell, L. N. Cosner, H. W. Wedaa, R. Gallup, "High Speed Explosive Argon-Flash Photography System," *Journal of the Society of Motion Picture and Television Engineers* **66**, 21-24 (1957).
- A. A. Shidlovsky, *Fundamentals of Pyrotechnics*, Government Publication of the Defense Industry, 1st Ed., Moscow, 1943 (Library of Congress Call No. UF 860.S5); 2nd Ed., Moscow 1954 (Library of the University of California, Berkeley).
- T. Shimizu, "Studies on Colour Flame Composition of Fireworks. 3, On Backgrounds of Colour Flame Spectra," *Journal of Industrial Explosives*, Feb. 1963, DDC-AD 298 019.
- L. L. Sloan, "A Lantern Test for Measuring Ability to Discriminate Colored Light Signals," *Journal of the American Optical Society* **34**, 352 (1944).
- J. A. Smid, A. J. H. Vondrik, "Ionization of Metal Vapors in a Flame," *Physics* **14**, 505-509 (1948).
- F. O. Smith, "A Study to Determine the Relative Effectiveness (Visibility) of Red, Orange, Yellow, Green, and Blue under Certain Specified Conditions," *Journal of Experimental Psychology* **26**, 124-128 (1940).
- G. R. Somayajulu, "Dissociation Energies of Diatomic Molecules," *Journal of Chemical Physics* **33**, 1541-1553 (1960).
- J. R. Soulen, *Vaporization of Boron Oxide and Other Group Three Oxides*, Thesis, University of Wisconsin, 1955.
- J. R. Soulen, P. Sthapitanonda, J. L. Margrave, "Vaporization of Inorganic Substances: B_2O_3 , TeO_2 and Mg_3N_2 ," *Journal of Physical Chemistry* **59**, 132-136 (1955).
- D. C. Spalding, *Some Fundamentals of Combustion*, Academic Press, New York, 1955.
- R. Spenser, S. Naiditch, H. L. Johnston, "The Vapor Pressure of Inorganic Substances, II, B_2O_3 ," *Journal of American Chemical Society* **72**, 2578-2580 (1950).
- J. E. Spice, L. A. K. Staveley, "The Propagation of Exothermic Reactions in Solid Systems. Part I. Pre-ignition Reactions," *Journal of Society of Chemical Industries (London)* **68**, 313-9 (1949).
- J. Stern, "Airborne Flash Lamp," *Science* **126**, 1356 (1957).
- D. R. Stull, G. C. Sinke, *Thermodynamic Properties of the Elements*, Advances in Chemistry Series 18, American Chemical Society, Washington, D. C., Nov. 1956.
- M. Summerfield, *Total Radiation from Burning Solid Propellant Strands*, Project SQUID Semi-Annual Progress Report, Apr. 1959.
- G. Sutherland, *The Mechanism of Combustion of an Ammonium Perchlorate-Polyester Resin Composite Solid Propellant*, Thesis, Princeton University, 1956.

- A. H. Taylor, "Vision at Low Brightness Levels," *Illumination Engineering* **38**, 89-98 (1943).
- I. L. Taylor, F. C. Sumner, "Actual Brightness and Distance of Individual Colors When Their Apparent Distance Was Held Constant," *Journal of Psychology* **19**, 79-85 (1945).
- James Taylor, *Solid Propellant and Exothermic Compositions*, George Newnes, Ltd., London, 1959.
- H. N. Terem, "Sur la Cinetique de l'Oxydation du Magnesium," *Comptes Rendus* **226**, 905-906 (1948).
- D. P. C. Thackeray, "Emission of Light from Electric Discharges of Microsecond Duration in Gases at Atmospheric Pressure," *Journal of Scientific Instruments* **35**, 206-12 (1958).
- H. Titman, A. H. A. Wynn, "The Ignition of Explosive Gaseous Mixtures by Friction," *Revue de l'Industrie Mineral* **36**, 1955.
- H. Tominaga, "Combustion of Aluminum Powder," *Journal of Chemical Society of Japan* **53**, 106-108 (1950).
- J. Valasek, *Introduction to Theoretical and Experimental Optics*, John Wiley and Sons, New York, 1949.
- J. A. M. Van Liempt, J. A. De Vriend, "The Light of Combustion of Aluminum-Zinc and Aluminum-Cadmium Alloys," *Recueil des Travaux Chimiques des Pays-Bas* **56**, 594-598 (1937).
- J. A. M. Van Liempt, J. A. De Vriend, "Light from the Combustion of Some Metals," *Recueil des Travaux Chimiques des Pays-Bas* **56**, 126-128 (1937).
- J. A. M. Van Liempt, J. A. De Vriend, "Studien uber das Aluminum und Aluminum-Magnesiumlicht," *Recueil des Travaux Chimiques des Pays-Bas* **54**, 239-244 (1935).
- J. A. M. Van Liempt, J. A. De Vriend, "Studien uber das Magnesiumlicht," *Recueil des Travaux Chimiques des Pays-Bas* **53**, 839-846 (1934).
- J. A. M. Van Liempt, J. A. De Vriend, "Studien uber das Verbrennungslicht einiger Metalle und Legierungen II," *Recueil des Travaux Chimiques des Pays-Bas* **58**, 423-432 (1939).
- J. A. M. Van Liempt, J. A. De Vriend, "Untersuchungen uber das Zirkoniumlicht," *Recueil des Travaux Chimiques des Pays-Bas* **53**, 895-898 (1934).
- A. Van Tiggelen, *The Kinetics of Flame Inhibition*, University of Louvain, Mar. 1959. DDC-AD 212 716.
- L. E. Varden, "A History of Flashbulbs," *Modern Photography* **19**, 116-19 (1955).
- I. V. Veits, L. V. Gurvich, V. V. Korobov, "Determination of the Dissociation Energy of Metal Oxides, (Sr, Ca and Mg) by Measuring the Intensity of Resonance Lines of Metal Atoms in Flame Spectra," *Akademi Nauk SSR, Izvestia, Ser. Fiz.* **19**, 5-6, 21-22 (1955).
- Y. I. Veitser, G. P. Luchinskii, *Smoke Screens*, Station Chemical Publications, Moscow-Leningrad, 1947, DDC-AD 100 075.
- S. Venkateska, "The Explosive Spectra of Some Metals," *Journal of the Mysore University (India)* **B2**, 55-60 (1941).
- G. Verhaegen, F. E. Stafford, P. Goldfinger, M. Ackerman, *Correlation of Dissociation Energies of Gaseous Molecules and of Heats of Vaporization of Solids. Part I, Mononuclear Diatomic Molecules*, University Libre de Bruxelles, 26 March 1962.
- A. D. Walsh, "Oxidization of Hydrocarbons," *Transactions of the Faraday Society* **42**, 269 (1946).
- J. D. Walton, Jr., N. E. Poulos, "Cermets from Thermite Reactions," *Journal of the American Ceramic Society* **42**, No. 1 (1959).
- J. Weiner, M. Lerkind, *Visibility—A Bibliography*, Library of Congress Reference Department, July 1952.

- George W. Weingart, *Dictionary and Manual of Pyrotechny*.
- Garry A. Weingarten, *Chemistry of Pyrotechnics*, presentation.
- G. W. Weingarten, *Pyrotechnics*, Chemical Publishing Co., 1943.
- R. Weingrad, G. W. McDonough, "Development of the T78E3 Detonator," *Second Fuze Symposium* sponsored by Diamond Ordnance Fuze Laboratories and Samuel Feltman Ammunition Laboratories, 13-14 Mar. 1956.
- W. L. Wells, *Photoflash Cartridge Ejectors*, U. S. Patent No. 2,717,533, June 1951.
- B. Werbel, Speech Delivered at JANAF Fuze Explosives Sub-Committee Meeting, 17 Nov. 1959.
- C. H. Winning, H. E. Edgerton, "Explosive Argon Flash Lamp," *Journal of the Society of Motion Picture and Television Engineers* **59**, 178-83 (1952).
- H. G. Wolfhard, W. G. Parker, "Emissivity of Small Particles in Flames," *Nature* **162**, 259 (1948).
- H. G. Wolfhard, W. G. Parker, *Temperature Measurements of Flames Containing Incandescent Particles*, *Proceedings of London Physical Society* **862**, 523-529 (1949).

REPORTS AND DOCUMENTS OF PUBLIC AND PRIVATE ORGANIZATIONS

ABERDEEN PROVING GROUND

Maryland

.. *Development of Small Arms Ammunition and First Report on Test of Caliber .30 Explosive and Incendiary Ammunition Loaded with Lead and Zirconium (35th Partial Report on ..)*, by W. B. Hardigg, C. G. Eddy, O. P. Boyer, July 1941, DDC-ATI 42 671.

Effectiveness of Incendiary Ammunition against Aircraft Fuel Tanks, by A. Stein, M. J. Torsch, MR 484, Oct. 1958, DDC-ATI 42 383.

Evaluation of Incendiary Effectiveness of Cal. .50 M1 Bullet with Zirconium Incendiary Mix, by H. V. Rewell, TS1-46, R-32, Feb. 1955, DDC-AD 59 594.

.. *Functioning of Small Arms Ammunition and First Report on Cal. .30 Japanese Type, Incendiary Ammunition (67th Partial Report on the ..)*, by G. G. Eddy, E. H. Harrison, E. Witkowski, June 1942, DDC-ATI 38 456.

.. *Functioning of Small Arms Ammunition and Fourth Report on Frankford Arsenal Cal. .30 Incendiary Ammunition and Fourth Report on Remington Cal. .50 Incendiary Ammunition (44th Partial Report on the ..)*, by W. B. Hardigg, G. G. Eddy, E. Witkowski, Oct. 1941, DDC-ATI 40 641.

.. *Functioning of Small Arms Ammunition and Fifth Report on Frankford Arsenal, Cal. .30 Incendiary Ammunition (45th Report on ..)*, by W. B. Hardigg, G. G. Eddy, E. Witkowski, Nov. 1941, DDC-ATI 40 640.

.. *Functioning of Small Arms Ammunition and Tenth Report on Remington Caliber .50 Incendiary Ammunition (64th Partial Report on ..)*, by G. G. Eddy, E. H. Harrison, E. Witkowski, June 1942, DDC-ATI 40 731.

.. *Functioning of Small Arms Ammunition and Eleventh Report on Remington Cal. .50 Incendiary Ammunition and Fifth Report on Frankford Arsenal ... and Seventh Report on Frankford Arsenal (69th Partial Report on the ..)*, by G. G. Eddy, E. H. Harrison, E. Witkowski, July 1942, DDC-ATI 38 489.

Incendiary Bombs, Apr. 1944, DDC-ATI 41 475.

.. *Instrument for Static Initiation and Control of Burning of Incendiary Pellets (An ..)*, by E. O. Bailey, T. R. Jeter, R766, Aug. 1951, DDC-ATI 117 953.

Luminosity-Time Records of Experimental Photoflash Bombs, by W. P. Bidelman, T. D. Carr, MR 398D, Oct. 1945.

Test of Experimental Photoflash Charges, by C. N. Gardner, Project 4612, R-3, Feb. 1945.

ADVISORY COUNCIL ON SCIENTIFIC RESEARCH AND TECHNICAL DEVELOPMENT

Washington, D. C. See: MISCELLANEOUS
DOCUMENTS.

AEROJET GENERAL CORPORATION

Design, Development and Fabrication of Recognition Signals, by J. Edberg, RN 891, Oct. 1954, DDC-AD 56 122.

Infrared Flare, WADD TR 61-201, R-411, Mar. 1961, DDC-AD 322 042.

Survey of Ignition Literature, by K. J. Korpi, RN 1097, July 1956, DDC-AD 118 414.

AERONAUTICAL RESEARCH LABORATORY

Wright-Patterson Air Force Base, Ohio *See:*
AIR TECHNICAL SERVICE COMMAND.

AIR FORCE ARMAMENT CENTER

Eglin Air Force Base, Florida *See:* **AIR
PROVING GROUND COMMAND.**

AIR FORCE BOARD

Washington, D. C. *See:* **DEPARTMENT OF
AIR FORCE.**

AIR FORCE CAMBRIDGE RESEARCH CENTER

Cambridge, Massachusetts *See:* **AIR
TECHNICAL SERVICE COMMAND.**

AIR FORCE EVALUATION BOARD

See: **DEPARTMENT OF AIR FORCE.**

AIR FORCE MISSILE DEVELOPMENT CENTER

Holloman Air Force Base, New Mexico

Colored Smoke Agents, by E. Grundemeir, TR
57-8, Aug. 1957, DDC-AD 135 002.

*Laboratory and Flight Tests of Chemical Tracking
Aids Performed for Project 6875*, by Donald L.
Ekstedt, AFMDC-TR 58-2, July 1958, DDC-AD
23 736.

*Preliminary Field Test Report Smoke Tests (H-21
and H-22)*, by W. F. Harris, Sept. 1951, DDC-
ATI 118 276.

Survey of Literature on Chemical Tracking Aids,
by E. Grundemeir, TR 57-7, Aug. 1957, DDC-
AD 135 001.

AIR FORCE SCHOOL OF APPLIED TACTICS

Tests of Recognition and Visual Material, Apr.
1943, DDC-ATI 88 458.

AIR MATERIEL COMMAND

Wright-Patterson Air Force Base, Ohio *See:*
AIR TECHNICAL SERVICE COMMAND.

AIR PROVING GROUND CENTER

Eglin Air Force Base, Florida *See:* **AIR
PROVING GROUND COMMAND.**

AIR PROVING GROUND COMMAND

Eglin Air Force Base, Florida

*Evaluation of a Colored Marking Head for the
2.25-in TMAR*, by C. L. Johnson, TR 53-22,
June 1953, DDC-AD 12 713.

*Evaluation of Incendiary Ammunition at High
Altitude*, by A. G. Bilek, AFAC TN-54-14, 1954.

*Operational and Engineering Test of Metallic Dust
Bombs, Type T-86*, APG/SSB/141-A, May 1951.

*.. Operational Suitability Test of the 500-lb Aim-
able Incendiary Cluster M19 (Final Report
on ..)*, Jan. 1952, DDC-ATI 125 918.

*.. Operational Suitability Test of Auxiliary
Charges for Increasing Visibility of Standard
Spotting Charges (Final Report on ..)*, by D. D.
Carlson, Aug. 1949, DDC-ATI 72 288.

*Penetration and Incendiary Test of the T21E1 Am-
munition—Supplement to Penetration Tests of
the E117R3 Incendiary Cluster*, by O. C. John-
son, AFAC TR 56-55, Nov. 1956, DDC-AD 110
845.

*.. Service Test of Pyrotechnic Distress Signals
(Final Report on ..)*, by K. M. Hammer, L. E.
Lyons, F. E. Brandeberry, Apr. 1948, DDC-ATI
50 916.

Supplementary Test of Smoke Marker Bombs,
AAFPG 1-43-84-1, Aug. 1944.

*Test of Bomber Formation Assembly by Visual
Signals; Use of Smoke Generator*, AAFPg 1-
45-11, May 1945.

*Test of a 750-lb Cluster of 10-lb Incendiary Bombs
(Cluster E115)*, by E. A. Coy, AFAC TN 54-5,
Mar. 1954, DDC-AD 27 937.

Test of Incendiary Ammunition at High Altitude,
by A. G. Bilek, AFAC-TR-55-11, 1955.

*Test of the 1000-lb Incendiary Clusters, E103R1
and E103R2*, by E. A. Coy, AFAC TN 54-1,
Jan. 1954, DDC-AD 25 903.

*Test of Operational and Tactical Suitability of the
Type T-8 Very Cartridge Discharger and the
Type T-12 Very Photoflash Cartridge*, Final
Reports 8-46-1, Oct. 1947.

AMCP 706-189

**AIR PROVING GROUND COMMAND
(cont'd)**

Test of Smoke Markers E13, AAFPG 1-43-84,
Mar. 1944.

*Tests to Determine Intensity of Illumination Re-
quired on a Night Photogrammetric Range*, Sept.
1955.

**AIR RESEARCH AND
DEVELOPMENT CENTER**

Wright-Patterson Air Force Base, Ohio See:
AIR TECHNICAL SERVICE COMMAND.

**AIR TECHNICAL SERVICE
COMMAND**

Wright-Patterson Air Force Base, Ohio

*Adapter Cases to Improve Efficiency in Perform-
ance of the M-23 Photoflash Bomb*, by R. G.
Tarkington, R-EXP-M-59-676-27-9, 1942, OTS-
PB 5777.

*Case History of Night Photography. Part I. The
Photoflash Bomb*, Oct. 1945.

*Cold Weather Testing of M-3 (E3R2) Incendiary
Oil Mixing and Transfer Unit and the E-74 Fire
Bomb*, by J. R. Bowden, TN WCLG-53-15, Mar.
1953, DDC-AD 7309.

*Collaboration with California Institute of Tech-
nology, Pasadena, California*, by R. N. Feicht,
R-EXP-M-59-676-15-13, 1941, OTS-PB 10058.

Colored Smoke Generators for Aircraft, MR ENG-
57-535-66, Aug. 1944.

Comparative Tests of Photoflash Bombs, M-46,
by R. G. Tarkington, R-ENG-M-59-676-15-28,
OTS-B.

*Conference on Flame Munitions Servicing Equip-
ment (Trip Report on ...)*, by R. W. McLachlan,
MR WCEG-R-555-1355, Jan. 1952, DDC-ATI
150 400.

*Conference at Picatinny Arsenal re Photoflash
Powder Mixtures*, by R. N. Feicht, R-EXP-M-
59-676-15-2, OTS-PB 10057.

*Daylight Tests of Inert Type M-23 Photoflash
Bombs*, by R. N. Feicht, R-EXP-M-59-676-15-16,
1941, OTS-PB 5775.

Daylight Tests of Type M-23 Photoflash Bombs,
by R. N. Feicht, R-EXP-M-59-676-15-11, 1940,
OTS-PB 5774.

Development of Bomb, Photoflash, M-46, by G. R.
Gold, NAVORD 73-45, Sept. 1945, OTS-PB
46937.

Droppable Marker Light Feasibility Study, by
R. C. Martin and H. V. Hawkins, TN 55-325, July
1955, DDC-AD 80 854.

*Effectiveness of Incendiary Ammunition at High
Altitude*, by J. L. Freeh, Memo MCREXG-555-
1335, Aug. 1950.

*Examination of Foreign Ammunition for Aircraft
Weapons—Russian 2 CM High-Explosive In-
cendiary Ammunition No. NAD-6052*, by Joehnk
(Translation from German), 1948.

*Illumination, Contrast, Spectrum and Color Con-
ditions in an Average Outdoor Scene, Etc.*, by
M. Nagel, Aug. 1956.

Inflammable Alloys for Incendiary Bombs, by D. J.
Emery, TN WCLG 54-11, Feb. 1954, DDC-AD
30 671.

Investigation of Photoflash Powders, by R. N.
Feicht, R-EXP-M-59-676-15-21, 1941, Same, R-
EXP-M-59-676-15-22.

*Light Distribution Effects for Various Burst Alti-
tudes of Standard Photoflash Munitions*, by
R. T. Johnson, TN-WCLR 55-6, Oct. 1955, DDC-
AD 77 415.

*Luminous and Spectral Reflectance as Well as
Colors of Natural Objects*, by R. Penndorf,
Feb. 1954.

Night Aerial Photography by Moonlight, by W. A.
Seigel, Dec. 1957, DDC-AD 142 020.

Night Photographic Test, by R. N. Feicht, R-EXP-
M-59-676-21-1, 1942, OTS-PB 9935.

AIR TECHNICAL SERVICE COMMAND (cont'd)

Night Photographic Tests of Experimental Bombs for Ordnance Department at Midland, Texas, by M. L. Kenyon, R-TSEPL-4-676-15-33, 1945, OTS-PB 11262.

Night Photographic Tests of Large Size Photoflash Bombs, by R. N. Feicht, R-EXP-M-59-676-15-3, OTS-PB 5773.

Night Photographic Tests at 150 Miles Per Hour, by R. N. Feicht, R-EXP-M-59-676-15-6, 1940, OTS-PB 5406.

Photoflash Bombs and Films Used in Night Photography, by R. G. Tarkington, R-EXP-M-59-676-31-1, 1942, OTS-PB 9936.

Photoflash Powder, by R. N. Feicht, R-EXP-M-59-676-15-18, 1941, OTS-PB 10055.

Photoflash Powders and Methods of Ignition, by R. G. Tarkington, R-ENG-M-59-676-31-2, 1943, OTS-PB 9933.

Physics of Night Aerial Photography, May 1950.

Progress on Test of Effectiveness of Incendiary Ammunition at High Altitude, by E. A. Brigner, MR WCEGE-R-555-1346, Sept. 1951, DDC-AD 61 299.

Service and Shelf Life Test for Igniter MK153 Mod 2, and Rocket Motor 14-DS-1000 MK4 Mod 2, by J. R. Parrish, 00Y-TR-59-9, Aug. 1959, DDC-AD 226 848.

Simplified Method of Determining Optimum Burst Altitudes for Aerial Photoflash Bombs under Various Conditions of Light Output and Flight Altitude for Fixed Camera-Trail-Angle Combination, by J. R. Quick, R. T. Johnson, TN-WCLR 55-5, Nov. 1956.

Slant Visibility, by R. Penndorf, Dec. 1952.

Standard Procedures for Evaluation of Infrared Emission from Pyrotechnic Devices, by R. A. Aycock, B. A. Breslow, et al., ASD TDR 62-483, Aug. 1962, DDC-AD 287 525.

Summary of Data on Fires and Explosions in Combat Aircraft Fuel Tanks, TSE00-524-1698, 1946.

Tests of Type T-3 Photoflash Bombs, by R. N. Feicht, R-EXP-M-59-676-15-19, 1941, OTS-PB 5455.

Theory of Flame Propagation Limits Due to Heat Loss (A...), by E. Mayer, TN 455-6, June 1957, DDC-AD 132 367.

Thermodynamics of High Temperature Gas Mixtures, and Application to Combustion Problems, by J. S. Gordon, R-57-33, 1957.

AIR UNIVERSITY

Colorado Springs, Colorado

Implications and Summary of a Psychological Warfare Study in South Korea, May 1958, DDC-ATI 115 751.

ALLEGHENY BALLISTICS LABORATORY

Cumberland, Maryland

Fitting Metal Oxidant Compositions into Practical Rocket Igniters, by R. S. Fey, J. E. DeVoto.

Investigation of Replacements for the Black Powder Charge in Rocket Igniters, by R. S. Fey, P. H. Skidmore, ABL/B-15, Dec. 1956, DDC-AD 136 279.

AMERICAN CYANAMID COMPANY CALCO CHEMICAL DIVISION

Boundbrook, New Jersey

Colored Oil Smoke, by E. J. Brook, ACC-ETF-913-5, June 1943.

Colored Oil Smoke. The Use of Dyestuffs in the DeVilbiss Generator, by E. J. Brook, ACC-ETF-913-9, Sept. 1943.

ARKANSAS, UNIVERSITY OF

Fayetteville, Arkansas

Final Historical and Technical Report, Contract DA-23-072-ORD-25, by M. T. Edmison, TR 20, Oct. 1952, DDC-AD 24 497.

AMCP 706-189

ARKANSAS, UNIVERSITY OF (cont'd)

Investigation of the Hygroscopic Effect of Impurities in Pyrotechnic Ingredients, by A. E. Harvey, L. L. Hays, RN 27, Aug 1955, DDC-AD 79 052.

Research and Development Work Concerning Evaluation of Experimental Igniter Compositions (Final Report on...), Oct. 1953.

Research and Development Work in Connection with Pyrotechnics, by A. E. Harvey, Oct. 1953, DDC-AD 24 497.

ARMOUR RESEARCH FOUNDATION

Chicago, Illinois *See*: ILLINOIS INSTITUTE OF TECHNOLOGY RESEARCH INSTITUTE.

ARMY AIR FORCES

See: DEPARTMENT OF AIR FORCE

ARMY ARMOR BOARD

Ft. Knox, Kentucky *See*: ARMY TEST AND EVALUATION COMMAND.

ARMY ARCTIC TEST BOARD

Ft. Greely, Alaska *See*: ARMY TEST AND EVALUATION COMMAND.

ARMY BALLISTIC RESEARCH LABORATORIES

Aberdeen Proving Ground, Maryland

Aerodynamic Heating of the Projectile 20mm, HEI, M56A1, Fuze M505, by R. Sedney, BRL MR 1037, Sept. 1956, Proj. TB3-04426, DDC-AD 119 653.

Ammunition Effectiveness, by E. Boenicke, (Trans. from German, Enequist, Lars N.), R-X-133, 1953.

Comparison of Firings of Incendiary Ammunition against Various Aircraft Fuel Tanks and Replica Targets, by R. G. Bernier, W. R. Harris, BRL MR 665, Apr. 1953, DDC-AD 15 443.

Effectiveness of AA Shell Loaded with Incendiary Pellets, by F. King, TN 289, Sept. 1950, DDC-ATI 149 560.

Effectiveness of Incendiary Ammunition against Aircraft Fuel Tanks, by A. Stein, M. J. Torsch, MR 484, Oct. 1948, DDC-ATI 42 383.

Estimates of Visible Flashes from Incendiary Type Projectiles Striking the MIG-15 Aircraft, by R. G. Bernier, W. D. Dunn, BRL MR 710, July 1953, DDC-AD 20 966.

Luminosity-Time Results on Experimental Photoflash Bombs M-46, T-9, T9E1, and T9E3, by R. W. Potts, R413, Feb. 1946.

Short Delay Baffle Detonators for Antiaircraft Contact Fuzes, by J. Squier, L. Zernow, BRL 690, Feb. 1949.

Some Problems in a Practical Ignition Study, by D. C. Vest, E. V. Clarke, Jr., W. W. Shoemaker, MR 650, Mar. 1953, DDC-AD 8931.

Test of Experimental Photoflash Charges for NDRC, by C. N. Gardner, ORD-3534, Feb. 1954.

ARMY CHEMICAL CENTER

Edgewood Arsenal, Maryland *See*: EDGEWOOD ARSENAL.

ARMY CHEMICAL CORPS

Washington, D. C. *See*: EDGEWOOD ARSENAL.

ARMY FIELD FORCES BOARD

See: ARMY TEST AND EVALUATION COMMAND.

ARMY MATERIEL COMMAND

Washington, D. C.

American Photoflash Bomb, M-23, Ordnance Board Proceedings 16/612, Mar. 1942.

Colored Smoke Generator, OTC Subcommittee Report M696, Sept. 1945.

Low Altitude Night Photography, Ordnance Board Proceedings 20/661, Nov. 1942.

Low Altitude Night Photography Requirement for Photographic Flash to be Fired from 1½-inch Signal Pistol, Ordnance Board Proceedings 19/771, Oct. 1942.

ARMY MATERIEL COMMAND (cont'd)

Photographic Flash Investigation with a View to Improvement and Economy (4.5-inch . .), Ordnance Board Proceedings 16/565, Mar. 1942.

Photographic Flash, Use of Magnesium and Potassium Perchlorate 50/50 Mixture (4.5-inch . .), Ordnance Board Proceedings 12/645, June 1941.

Standardization of Bomb, Smoke, Colored, Streamer, Item 1434 of COTC Minutes, Aug. 1945.

Standardization of Grenade, Rifle, Smoke, Red Streamer, M23 (T12), Item 28152 of OTC Minutes, June 1945.

Standardization of the Grenade, Smoke, Red M3A1 and Reclassification of the Grenade, Smoke, Red AN-M3, Item 1624 of COTC Minutes, Aug. 1946.

Standardization of M3A1 Smoke Grenade, Item 1694 of COTC Minutes, Oct. 1946.

ARMY MATERIALS RESEARCH AGENCY

Watertown, Massachusetts

Spotting Round Projectiles: Feasibility Study on Development, by F. A. Brouillette, J. P. McDonough, Jan. 1960, DDC-AD 231 900L.

ARMY ORDNANCE CORPS

Washington, D. C. See: **ARMY MATERIEL COMMAND.**

ARMY ORDNANCE DEPARTMENT

Washington, D. C. See: **ARMY MATERIEL COMMAND.**

ARMY ORDNANCE TECHNICAL COMMITTEE

Washington, D. C. See: **ARMY MATERIEL COMMAND.**

ARMY TEST AND EVALUATION COMMAND

Aberdeen Proving Ground, Md.

Availability of Long-Burning High Altitude Tracking Flares, by C. A. Lundquist, R-6M71, Aug. 1955.

Confirmatory Test of Signal, Ground, Hand-Held, M128E1, June 1960, DDC-AD 237 652.

Confirmatory Test of Signals, Ground, Hand-Held M125E1 and M129E1, July 1959, DDC-AD 220789.

Environmental Test of Grenade, Hand, Red Smoke, M18, by A. L. Mori, DPGR 233, July 1959, DDC-AD 226 941.

Evaluation of Signals, Ground, Hand-Held, M125 and M127 (Renovated), Apr. 1960, DDC-AD 235 944.

Flares for Increasing Visibility of Missiles (Preliminary Report on . .), by R. A. Becker, TN-18-2-1, Oct. 1954, DDC-AD 130 323.

Military Characteristics for Grenade, Hand, Illuminating, by H. E. Kelly, Feb. 1952, DDC-ATI 149 546.

Service Test of Burster, Incendiary, E-4, Proj. 2744, June 1958, DDC-AD 302 421.

Service Test of Shell, Illuminating, 155mm, T72E2, ATB 1-212, Apr. 1962, DDC-AD 275 882.

Service Test of Signals, Ground, Hand-Held, M127 White Star Parachute (Modified Design), Army Arctic Test Board Proj. ATB 457, DA Proj. 504-22-016 ROB Technical Objective LC-18, ATDEV 3470/20, July 1958, DDC-AD 200 214.

Test of Colored Smoke Grenades, M16 (Report on . .), Proj. 153, May 1943.

Test of Grenades, Smoke, Colored M16, Proj. 346, Mar. 1944.

Test, Project AVN 1857, Evaluation of Flares for Battlefield Illumination (Report of . .), ATDEV-6 470/18, July 1958, DDC-AD 200 217.

Test, Shell, HE, Colored Marker, 90mm, T49 (Supplemental Report of . .), Proj. AA-349, Jan. 1954, DDC-AD 23 804.

Test of 105mm Shell, Smoke M84, Proj. 493-1, Nov. 1943.

AMCP 706-189

ARO, INC.

Tullahoma, Tennessee

Method of Obtaining High Altitude Ignition for Liquid Propellant Rockets (A...), by H. A. Reichmann, Jr., ABDC-TR-59-2, Feb. 1959, DDC-AD 210 001.

ATLANTIC RESEARCH CORPORATION

Alexandria, Virginia

Development of Long Wavelength Infrared Flare, WADD TN 61-101, Mar. 1961, DDC-AD 322 041.

Development of a Pyrotechnic Formulation for BZ Dissemination, R-3, Jan. 1963, DDC-AD 333 791.

Development of a Pyrotechnic Formulation for BZ Dissemination, by J. S. Bowen, K. D. Johnson, et al., R-4, Feb. 1963, DDC-AD 334 339.

Development of a Pyrotechnic Formulation for BZ Dissemination, by J. S. Bowen, K. D. Johnson, et al., R-5, Mar. 1963, DDC-AD 335 046.

Development of a Pyrotechnic Formulation for BZ Dissemination, by J. S. Bowen, L. A. Salvador, R. S. Scheffee, W. Schieker, G. Aron, R-8, June 1963, DDC-AD 337 115.

Development of a Pyrotechnic Formulation for BZ Dissemination, R-10, Aug. 1963, DDC-AD 339 801.

ATLAS POWDER COMPANY

Wilmington, Delaware

Gas Generator, by R. McGirr, Final Report, Contract DA-18-108-405-CML-212, Nov. 1958, DDC-AD 207 025.

ATOMIC ENERGY COMMISSION

Washington, D. C.

Tables of Free Energy Functions for Elements and Compounds in the Range of 2000°-5000°K, by W. M. Latimer, MDDC-1462, 1952.

BALKE RESEARCH ASSOCIATES, INC.

Doylestown, Pennsylvania

Chemical and Metallurgical Examination of Soviet Cartridge 7.62mm Explosive Incendiary (FMAM-2260-L), Contract DA-36-038-ORD-8144, Oct. 1952, DDC-AD 1052.

BALLISTIC RESEARCH LABORATORIES

See: ARMY BALLISTIC RESEARCH LABORATORIES.

BARNES AND REINECKE, INC.

Naval Pyrotechnics Development for U. S. Naval Ammunition Depot, Contract N164s-6762, 1957, DDC-TIP U50772, DDC-AD 159 423.

BATTELLE MEMORIAL INSTITUTE

Columbus, Ohio

Research for Understanding Mechanisms of Flame Inhibition, by A. Levy, June 1959, DDC-AD 225 864.

BOSTON UNIVERSITY

Boston, Massachusetts

Collection of Graphs Concerning Atmospheric Transmission, Natural Illumination and Reflectance of Terrain, (A...), Optical Research Laboratory, July 1952.

BUREAU OF MINES

Washington, D. C.

Combustion Products of Primer Mixtures, by J. M. Kuchta, P. A. Richardson, J. A. Herickes.

Contributions to the Data on Theoretical Metallurgy. III. Free Energies of Vaporization and Vapor Pressures of Inorganic Substances, by K. K. Kelley, Bull. 383, 1935.

Contributions to the Data on Theoretical Metallurgy. X. High Temperature Heat Content, Heat Capacity, and Entropy Data for Inorganic Compounds, by K. K. Kelley, Bull. 476, 1949.

Contributions to the Data on Theoretical Metallurgy. XI. Entropies of Inorganic Substances, by K. K. Kelley, Bull. 477, 1950.

BUREAU OF MINES (cont'd)

Contributions to the Data on Theoretical Metallurgy. XII. Heats and Free Energies of Formation of Inorganic Oxides, by J. P. Doughlin, Bull. 542, 1954.

Explosive Characteristics of Titanium, Zirconium, Thorium, Uranium, and Their Hydrides, by I. Hartman, J. Nagy, M. Jacobson, Report 4835, Dec. 1951.

Inflammability and Explosibility of Metal Powders, by I. Hartman, J. Nagy, H. R. Brown, Report 3722, Oct. 1943.

Inflammability and Sensitivity Tests of Smoke Compositions, Starter, Delay, and Flash Powders Submitted by Chemical Warfare Service (Report on...), ACC-ETF 150.2-9, June 1944.

BUREAU OF NAVAL WEAPONS

Washington, D. C.

Adjustment of Dominant Wavelengths in Non-Halogenated Colored Flares (The...), by D. M. Johnson, RDTN-76.

Aerial Burst Simulator, Development of WEP-TASK, by J. W. Puckett, RDTN-27.

Aerial Pyrotechnic Signal for Use from Deep Operating Submarines (An...), by E. F. Davis, NOL TR 63 150, June 1963, DDC-AD 341 485.

Air Standardization Coordinating Committee Program: Results of Tests of Canadian Aircraft Signal Cartridges 1½-inch, by R. A. Simon, NOL R6853, Apr. 1960, DDC-AD 317 934.

Air Standardization Coordinating Committee Program: Results of Tests of United Kingdom Parachute Flare, Rocket Flare Head, and Hand Distress Signal, by R. A. Simon, NOL R6856, June 1960, DDC-AD 318 481.

Aircraft Parachute Flares: High Speed Flight and Drop Tests, May 1953, DDC-AD 14 918

Aircraft Pyrotechnics and Accessories, OP 998, May 1947, DDC-ATI 178 279.

Artillery Burst Simulator (Whistle) Type I Stability Tests, by C. Armour, RDTR 9.

Attributes of Gasless Delay Devices, by A. B. Dietemann, NAVORD 6046, Jan. 1958, DDC-AD 157 272.

Burning Characteristics of Manganese, Barium Chromate and Lead Chromate Mixtures, by E. E. Elzufon, NAVORD 2261, Jan. 1952, DDC-AD 134 343.

Burning Characteristics of Phosphorus Candles, by T. G. Beck, RDTN-16.

Cartridge, Photoflash, EX 54 MOD 0, by B. Bliss, J. Laswell, RDTR-25, DDC-AD 331 757.

Chemical Analysis of a Magnesium-Sodium Nitrate Composition in a Laminac Binder, by W. Ripley, RDTR-21, Apr. 1961, DDC-AD 255 726.

Chemical Analysis of Red Smoke Mixture for Visibility of Smokes and Flares, by J. McGriffin, July 1962, DDC-AD 288 745.

Chemical Analysis of a Typical Phosphorus Smoke and Flare Compositions, by W. Ripley, RDTR-16.

Chemical Analysis of a Typical 6-6-8 Pyro Starter Composition, by W. Ripley, RDTR-27.

Chemical Analysis of Yellow Smoke Mixture—Visibility Investigation of Smokes and Flares, by J. McGriffin, July 1962, DDC-AD 283 297.

...Chemical Ignition System (A...), by D. M. Johnson, RDTN-56.

Colored Balloons, Visibility of, by D. Jensen, R-3984, Jan. 1958.

Colored Flare Ingredient Synthesis Program, by B. Douda, RDTR-43.

Combustion Processes of Solid Compositions, by D. M. Johnson, RDTN-74.

Combustion Products of Primer Mixtures, by J. M. Kuchta, P. A. Richardson, J. A. Herickes.

**BUREAU OF NAVAL WEAPONS
(cont'd)**

.. Comparative Study of Five Pyrotechnic Delay Compositions (A..), by M. F. Murphy, NAVORD 5671, Apr. 1958, DDC-AD 209 368.

.. Comparison of Burning Properties of the MK 7 MOD 2 Starter Mix (A..), by J. Feagans, RDTR-19.

Comparison of NAD Crane Candlepower Measurement Equipment as Used on MK 24 Parachute Flare, by H. L. Benham, RDTN-40.

Compatibility of Igniter Ignition Mixtures with Protective Roller-Coating Materials, by W. G. Gough, B. Johnson, F. A. Zihlman, TR 80, NAVORD 3051, July 1954, DDC-AD 40-787.

Delay Element XF-7B; Effect of Temperature and Humidity Conditioning on Delay Time, by A. R. Timmins, R-2505, Mar. 1954.

Delay Powder, Requirements and Test Procedures, BUORD Drawing 1183355, NOL D-16.

Description and Requirements of Manganese Delay Compositions, NAVORD 05 5445C.

.. Design and Development of Tracers EOB MOD 2 and EOB MOD 2A (The..), by J. B. Hoyland, R. H. George, TM 486, Apr. 1953, DDC-AD 103 111.

Designed Experimentation to Determine Feasibility of Modifying the Sidewinder A1A Igniter, by J. Hollis, NAVWEPS 5481.

Descriptions and Requirements, Powders, Ignition, Gasless, NAVORD OS 8976A, 1959.

Determination of the Burning Rates of Gasless Delays, by R. H. Comyn, NOLM 8971, June 1947.

Development and Characteristics of the 5-inch Flash Head (NOTS-2-Re8b-112-2, TM-955, NOTS Model 113A), Oct. 1951, DDC-AD 5023.

Development of D-637 Igniter for the HPAG Rocket, by N. C. Eckert, TN 453, June 1951.

Development of the Igniter NOTS Model D639, by N. C. Eckert, NOTS 1236 NAVORD 4928, Oct. 1955, DDC-AD 77 682.

Development of the Igniter MK 127 MOD 0 for the Sidewinder Propulsion Unit, by J. H. Wilson, D. A. Colpitts, W. W. Boyle, NOTS TP 2237, NAVORD 6540, May 1959, DDC-AD 309 258.

.. Development of the XE-57B Delay Primer for the Picket Boat Depth Charge Pistol (The..), by E. E. Kilmer, NAVORD 6092, Oct. 1958.

Development of a Delay System for the XE-2, XE-3, and XE-9 Delay Actuators and the XE-26 Delay Primer, by B. B. Herman, B. Bernstein, I. Kabik, NAVORD 4204, DDC-AD 95 666.

Development of the Hand Illuminating Grenade, Mark I, by J. M. Miller, NAVORD C52632, RN 5-44, Mar. 1944, DDC-AD 134 638.

Development of Ignition Elements for Guided Missile Ignition Systems, by G. W. Peet, E. E. Elzufon, L. F. Gowen, NAVORD 6283, Mar. 1959, DDC-AD 226 937.

Development of the 15mm T72E2 Illuminating Shell, by R. Smith, NAVWEPS 8248.

Development of EX-33 MOD 0 Marine Location Marker, by E. Mason, Sept. 1961, DDC-AD 264 279.

Development of Marine Location Marker EX16 MOD 0, by P. Cornwell, A. Erickson, NAVORD 5479, Dec. 1959, DDC-AD 234 020.

Development of Marine Location Marker, MK 28 MOD 0, by R. Richardson, NAVWEPS 8256, Oct. 1963, DDC-AD 347 515.

.. Development of Mixing Procedures for Gasless Fuze Powders (The..), by R. T. Skelton, NAVORD 1773, Jan. 1951.

Development of Red Phosphorus Smoke Compositions, Non-Linseed Oil and Non-Aging Type, by C. Armour, RDTR-5.

BUREAU OF NAVAL WEAPONS (cont'd)

Development of 5.0-inch Rocket Head NOTS Model 1040 (Pyrotechnic Delay Flare Head), by D. Stoehr, NOTS TM 1077, Nov. 1952, DDC-AD 19 299.

Development of a Series of Metal-Oxidant Igniter Materials for Use in Rocket Igniters and Gun Primers, by H. Hurwitz, E. E. Elzufon, L.F.X. Gowen.

.. Development of a Short Duration High Intensity Photoflash Cartridge, EX-54 (The ..), by B. H. Calkins, RDTN-51.

Development of the Signal, Flash, Guided Missile MK 37 MOD O for the Sparrow III Missile, by R. G. Weldon, NOTS 1978, NAVORD 5860, May 1958, DDC-AD 203 417.

Development of Submarine Emergency Identification Signal Marks 41, 45, and 46 MODS O, by P. O. Cornwell, R5476, 30 Dec. 1959, DDC-AD 315 940.

Development of Submarine Location Marker MKS 21, 22, 23, and MOD O, by G. Johnson, R5482.

Effect of Container Material and Loading Pressure on Burning Characteristics of Colored Flares, by D. W. Jensen, NAVORD 6682, Dec. 1959, DDC-AD 232 757.

Effect of Loading Variables on the Burning Characteristics of Delay Powders, by E. E. Elzufon, NAVORD 2262, Dec. 1951, DDC-AD 72 686.

Effect of Moisture Content in Black Powder Performance of Igniters, by H. Lottes, RDTR-17.

Effect of Particle Size on the Burning Rate of Delay Mixtures, by R. H. Comyn, E. E. Elzufon, NAVORD 2158, Dec. 1951, DDC-AD 141 646.

Effect of Pressure on the Burning Rate of Gasless Delays, by R. Comyn, R. S. Skelton, R-1787, July 1951.

.. Effects of Particle Size of Fuels on Burning Rate and Output Characteristics of Pyrotechnic Mixes (The ..), by S. M. Fasig, RDTN-18.

.. Electrostatic Sensitivity Evaluation of Zirconium-Lead Dioxide Igniter Powder (The ..), by N. Stuffle, RDTR-18.

Emission Studies of Selected Pyrotechnic Flames, by B. Douda, RDTN-77.

.. Evaluation of Flame Intensity by Comparison of Flares (An ..), by J. W. Feagans, RDTN-68.

Evaluation of EX-54 Photoflash Cartridge Aircraft Launched, by L. Hitchcock, RDTN-78.

.. Evaluation of Plastic Coated Safety Fuse for Use with Pyrotechnics (An ..), by I. F. Wagner, NAVORD 2826, July 1953.

Evaluation of Preliminary Lots of Igniter MK 125 MOD 4 Manufactured by Federal Ordnance, Inc., by C. H. Anderson, NOTS 1570, NAVORD 5323, Sept. 1956, DDC-AD 113 459.

Evaluation Test Results on Service and Experimental Squibs, by G. W. Peet, L. F. Gowen, NAVORD 6061, DDC-AD 160 287.

.. Evolution of Gas from Coated Magnesium-Black Powder Igniter Mixtures (The ..), by R. M. Moon, Jr., NOTS TM 1962, July 1954, DDC-AD 39 725.

Examination of German Signal Cartridge, by G. F. Hussey, Jr., NR 4-297, Apr. 1944, DDC-AD 300 008.

Experiment in Developing Green Flare Formulas, by C. Armour, RDTR-11.

.. Experimental Ashless Blue Flare Composition (An ..), by W. Ripley and J. McGriffin, RDTR-34, Apr. 1963, DDC-AD 411 866.

Explosions and Chemistry Research Departments Safety Manual, by R. McGill, NAVORD 6256, May 1959, DDC-AD 226 938.

Explosives, Propellants and Pyrotechnic Safety Covering Laboratory, Pilot Plant, and Production Operations, by R. McGill, NOLTR 61-138, Oct. 1961, DDC-AD 272 424.

Factors Affecting Signalling by Visual Methods, by R. D. Dwiggin, NAVORD 6034, Dec. 1957, DDC-AD 162 931.

BUREAU OF NAVAL WEAPONS
(cont'd)

Factors Affecting the Visibility of an Object or Light Source through the Atmosphere, by J. Swinson, RDTN-57.

Factors Influencing Burning Characteristics of Flares (Report on ...), by T. G. Beck, RDTN-13.

Feasibility of Metal-Fluorocarbon Reactions for Igniters and Pyrotechnics, by F. G. Crescenzo, E. C. Julian, R. C. Meyers, NOTS 1607 NAVORD 5371, Sept. 1957, DDC-AD 150 131.

Field Evaluation Technique Study of Pyrotechnic Signals, by L. Kaner, TM 244, June 1960, DDC-AD 240 507.

Flare XA-1A; Compatibility of Explosive and Pyrotechnic Compounds with Each Other and with Inert Parts, by D. Steele, R-3518, June 1956.

Flare Composition, by C. J. Thelan, Oct. 1959.

Flare Formulation and Diameter Study of Standard Flare Composition, by J. Feagans, RDTN-75.

XA-1A Flare Fuze Primer Firing Investigation by D. F. Scheets, R-2966, Feb. 1955.

Flare Performance Investigation, by H. Lottes, NAVWEPS 8250.

Formula for Delay Powder (HP-25 Type), NAVORD 8720.

Glycine-Strontium Perchlorate Compound Synthesis, Characterization and Discussions, by B. E. Douda, RDTN-26.

Heat Decoy Countermeasures for Infrared Guided Air to Surface Missiles, by H. M. Sternberg, E. A. Cadwallader, NAVORD 3804, July 1954.

Hovering Flare, by C. Lohkamp, RDTN-47.

Identification of Antiaircraft Projectile Bursts (The ...), by NSL, B-1689, Jan. 1941.

Infrared Flare Experiment Using Teflon-Wax Binder, by J. Feagans, NAVWEPS 8249, DDC-AD 331 756.

Infrared Flare Radiometer (An ...), by D. I. Gilbert, NOTS 1977, NAVORD 5859, Mar. 1958, DDC-AD 160 358.

Improved Tracer Composition, by I. F. Wagner, NAVORD 2895, Mar. 1954.

Improved Tracer Composition Loaded in MK-11 Tracer Bodies; Compatibility of, by P. J. Smith, R-2762, Oct. 1954.

Improved Tracer Compositions, Program for, by B. E. White, R-1015, Jan. 1952.

Influence of Air on Heat of Reaction Determinations, by R. H. Comyn, NOLM 9338.

Infrared Measurement System, by H. L. Benham, RDTN-70.

Infrared Tracking Flare (TAU-15/B ...), by L. C. Hitchcock, RDTR-28, July 1962, DDC-AD 332 252.

Instrumentation for the Measurement of Gases Evolved from Burning Delay Powders, by R. S. Skelton, R-1815, 1951.

Inter-Station Pyrotechnic Conference (Second ...), Oct. 1959.

Inter-Station Pyrotechnics Conference at the U. S. Naval Ordnance Test Station (Third ...), NOTS TP 2505, Apr. 1960.

Inter-Station Pyrotechnic Conference (Minutes of the Fifth ...), by S. M. Fasig, RDTR-24, 1961, DDC-AD 327 837. Same, Dec. 1958.

Investigation of the Burning Characteristics of the Lead Dioxide-Cupric Oxide-Silicon Starter Composition, by W. Ripley, RDTR-41.

Investigation of Desensitizing Agents for Pyrotechnic Mixtures (An ...), by R. D. Cool, NAVORD 2213, Jan. 1952, DDC-AD 29 858.

Investigation of MK 28 Infrared Flare Composition, by W. Ripley, R. Ilger, RDTR-23, DDC-AD 327 322.

BUREAU OF NAVAL WEAPONS (cont'd)

- .. Investigation of Internal Venting for Delay Actuators*, by H. S. Leopold, E. E. Kilmer, NAVORD 5724, Sept. 1957.
- Investigation of Low Temperature Ignition for the 2.75" AAFR Rocket*, by N. C. Eckert, NOTS TM 420, Mar. 1951, DDC-AD 122 756.
- .. Investigation of the MK 58 Signal Fuse to Black Powder Pellet Transfer Failure (An...)*, by C. Armour, RDTN-85.
- Investigation of the MK 25 MOD 2 Smoke Flare Composition*, by W. Ripley, RDTR-33, DDC-AD 411 548.
- Investigation of MK 25 MOD 2 Starter Composition*, by W. Ripley, RDTR-36, DDC-AD 436 599.
- Investigation of Visibility and Formulation of "Ashless Blue Flare,"* by J. McGriffin, W. Ripley, RDTR-31.
- Investigations into the Calorimetric Determination of the Heat of Combustion of a Tertiary Pyro Composition: Thermite Mixture*, by W. Ripley, RDTR-13.
- Investigations of Physical and Chemical Parameters of the MK 56 Smoke Tracking Kit Smoke Composition*, by J. Wildridge, J. Kemp, NAVWEPS 8258.
- Kinetic Energy Calculations for the NAD Crane Friction Sensitivity Pendulum*, by J. Hollis, RDTR-14.
- Laminac Resin, Gel Time and Viscosity of*, by P. J. Smith, R-3618, July 1956.
- Life Raft Marker—MK-6 Mod-O, Field Tests*, by C. A. Browning, R-534, June 1951.
- Long Burning Colored Flares and Smokes*, by B. E. Douda, RDTN-1.
- .. Low Gassing Igniter Mixture for Various Pyrotechnic Delay Compositions (A...)*, by E. E. Kilmer, NOLTR 61-153, Nov. 1961.
- Low Temperature Tests on Various Production Pyrotechnics*, by S. M. Fasig, NAVORD 3644, Jan. 1954.
- Manganese and Cobalt Delay Mixtures*, by R. H. Comyn, R. Skelton, NAVORD 1775, Mar. 1951.
- Marker, Location, Submarine MK 27 MOD O*, by R. Smith, NAVWEPS 8257, Aug. 1963, DDC-AD 346 249.
- .. Meeting of the Air Standardization Coordinating Committee, Working Party 4(b) 3 on Air Pyrotechnics (Report on the 4th...)*, Held in London, by L. LoFiego, NAVORD 2187, Sept. 1951.
- .. Method for Determining the Effective Emitting Temperature of a Radiating Body (A...)*, by G. Laramore, D. Johnson, RDTR-44.
- .. Method for Measuring Effective Energy from Radiation Sources (A...)*, by H. I. Sumricht, NOTS 1979, NAVORD 5861, Mar. 1958, DDC-AD 157 082.
- .. Method for Measuring the Pressure Developed during the Burning of Pyrotechnic Delay Elements (A...)*, by L. F. Marino, B. Aaront, July 1952.
- .. Method of Protecting Metal Powders from Deterioration (A...)*, by R. H. Comyn, R. Skelton, NAVORD 1814, Apr. 1951, DDC-AD 87 471.
- Military Pyrotechnics*, by M. K. Bennett, E. D. Margolin, R147, Feb. 1958, DDC-AD 159 423.
- .. Modified Arrhenius Equation for the Combustion Rate (A...)*, by D. M. Johnson, RDTN-63.
- Naval Pyrotechnics Development*, USNAD, Crane, Ind., by W. R. Norecock, G. A. Platz, Jr., 1957.
- Nine Areas of Difficulty in Performing a Pyrotechnic Assignment*, by S. M. Fasig, RDTN-17.
- Nitrate Particle Size Investigation*, by H. C. Lottes, RDTN-45.
- NOTS Standard Method for Analysis of Flash Signal Composition NOTS XS 157*, by R. H. Pierson, NOTS TP 2147, NAVORD 6440, Jan. 1959, DDC-AD 211 978.

BUREAU OF NAVAL WEAPONS
(cont'd)

NOTS Standard Method for Analysis of Ignition Mixture, NOTS-XZ-1 (Zirconium, Lead Peroxide, and PMVT Polymer), by R. H. Pierson, NOTS TP 2172, NAVORD 6457, Mar. 1959, DDC-AD 306 223.

NOTS Standard Method for Analysis of Pelletized Ignition Mixture, Boron, Potassium Nitrate, and Laminac Resin, by R. H. Pierson, NOTS TP 2359, NAVORD 6615, Nov. 1959.

Operating Manual and Description of Pyrotechnic Time Sequence Measuring Equipment, by J. P. Madden, NOTS TM 1055, Aug. 1952, DDC-AD 120 169.

Ordnance Explosive Train Designers Handbook, NOLR 1111, Apr. 1952.

Parasite Tracer for the 2.75" FFAR, by W. G. Clark, B. A. Breslow, W. N. Kendall, TM-1075, Nov. 1952, DDC-AD 8620.

Photoflash Cartridge (Interim Progress Report on EX 54 . .), by L. B. Arnold, B. R. Bliss, B. H. Calkins, C. W. Gilliam, J. E. Laswell, H. C. Lottes, R. J. Stovall, RDTN-33.

Photoflash Cartridge, Aircraft Launched, EX-54 MOD O to FPE (Release Report of . .), by B. Bliss, C. Gilliam, RDTN-73.

Photoflash Research (Interim Progress Report . .), by B. Bliss, RDTN-48.

Photometric System for Measuring Intensity and Duration of Pyrotechnic Signals (A . .), by R. E. Lawrence, NOTS 2105, NAVORD 6408, Sept. 1958, DDC-AD 207 684.

Pour Cast Pyrotechnic Masses, by B. E. Doua, RDTN-35. Same, RDTN-55.

Pre-Analysis and Synopsis of Anticipated Results of the Flare Performance Investigation, by H. C. Lottes, RDTN-11.

Preliminary Study of Gasless Delays, by R. H. Comyn, NOLM 9862, 1952.

Preparation of Manganese Delay Composition, by W. F. Haber, NAVORD 9360, Jan. 1957.

Primers XE-66A, XE-67A, XE-70A for Hotpoint, by V. J. Menichelli, NAVORD 6083, May 1958.

Problems in Producing Satisfactory Colored Smoke Clouds, by S. M. Fasig, RDTN-19.

Program Proposal for Value Engineering MK25-2 Progress Report on Candle Manufacture, by T. G. Beck, RDTN-24.

Properties of Strontium Perchlorate-Methyle Methacrylate Solutions, by B. E. Doua, RDTN-28.

Proposal for Pyrotechnic Radiation-Application and Generation (PRAG) Generation Phase I, by D. M. Johnson, RDTN-39.

Proposed Data Collection System for Phosphorus Compositions, by T. Beck, RDTN-72.

Proposed Study of Visual Missile Guidance Systems, by J. Swinson, RDTN-69.

Propulsion Development Department Review, "Chapter 4, Explosives and Pyrotechnics," NOTS TP 2990, June 1962, DDC-AD 333 165.

Prospective Study of Chemical and Physical Factors Determining the Burning Characteristics of the Silicon-Lead Dioxide-Cupric Oxide Starter Composition, by W. L. Ripley, RDTN-37.

Pyrotechnics, by B. E. Doua, RDTN-9.

Publications during Calendar Year 1962 on Explosives, Propellants and Pyrotechnics, by R. McGill, P. Heller, NOLTR 63-48, Apr. 1963, DDC-AD 339 345.

Publications of the Explosions and Chemistry Research Departments, by R. McGill, P. Heller, NAVORD 6166, Oct. 1958, DDC-AD 328 526. Same, NOLTR 62-10, Jan. 1962, DDC-AD 329 257.

Pyrotechnic Ammunition, Compositions and Physical Data, by D. W. Jensen, NAVORD 6221, Dec. 1958, DDC-AD 306 100.

BUREAU OF NAVAL WEAPONS (cont'd)

- Pyrotechnics Applied to Fuze Evaluation*, by R. G. Weldon, G. T. Hahn, Feb. 1957.
- Pyrotechnic Design for Extreme Temperature Submarine Float Signal MK-2 MOD 1; Low Temperature Tests of*, by S. M. Fasig, R-2212, Dec. 1953.
- Pyrotechnic Formulae (AM-205)*, by L. LoFiego, G. Butters, TM 9292, Aug. 1947.
- Pyrotechnics and Miscellaneous Explosive Items*, OP 2213, Dec. 1957.
- Pyrotechnics in Modern Warfare*, by L. LoFiego, NAVORD 1870, Oct. 1951.
- Qualifications Tests of the U. S. Flare Division's W211 Jacketed Tracking Flare*, by E. A. Allen, IDP 859, Feb. 1960.
- Quanidine Nitrate as a Flare Additive*, by D. M. Johnson, RDTN-22.
- Quantitative Analysis of Red Smoke Composition EX 2 ASTD*, by J. McGriffin, C. Armour, A. Trenta, RDTN-12.
- Quantitative Chemical Analysis of a Green Smoke Composition*, by W. Ripley and V. Reed, RDTR-22, July 1961, DDC-AD 267 653.
- Quantitative Spectral Measurements of Sunlit Backgrounds*, by D. E. Martz, H. I. Sumricht, G. C. Augason, Apr. 1956.
- Reflective Telescope for Evaluating Light Output of Flares*, by L. Smith, RDTN-14.
- .. Relationship between Sensitivity and Loading Pressures for a Standard Type Timing Mixture (The ..)*, by G. U. Graff, R. T. Skelton, R-2110, Aug. 1951.
- Relationships Observed in Colored Flames*, by B. Douda, RDTR-3833.
- Relative Spectral Distribution of Burning Napalm*, by M. E. Backman, NOTS 622, NAVORD 2005, Jan. 1953, DDC-AD 7174.
- Reports Issued by Explosives Research Department during Calendar Year 1952*, by R. McGill, NAVORD 2762, DDC-AD 13 850.
- Research in Chemistry*, NAVORD 6541, Mar.-Apr. 1959, DDC-AD 309 061. Same, NAVORD 6558, Apr.-June 1959, DDC-AD 309 595.
- Research in Chemistry, Propellants, and Explosives: Quarterly Progress Report*, NOTS TP 2273, NAVORD 6558, June 1959.
- Results of Comparison Tests on the Parachute Red Star Distress Signal T55E1 and the Pistol Rocket Signal MK 1 MOD 1*, by S. M. Fasig, K. N. Boley, NAVORD 3643, Mar. 1955.
- Safety Manual—the Laboratory Preparation of Pyrotechnics*, by C. Armour, R-29, July 1962, DDC-AD 289 445.
- Sensitivity of Pyrotechnic Compounds*, by K. Anderson, RDTN-50.
- Smoke Puff Warheads for Terrier, Tests of*, by R. T. Ruble, B. W. Sarver, RN-564, Feb. 1950, DDC-TAI 204 196.
- .. Smoke Tracking Device (EX-1 MOD 0 ..)*, by O. Beckes, NAVWEPS 5484.
- Spectrographic Studies of Pyrotechnic Flares*, by L. LoFiego, E. H. Winger, MR 10619, Dec. 1949, DDC-AD 35 594.
- Statistical Study of Primer Sensitivity Drop Tests*, by J. R. Sullivan, NAVORD 2226, June 1953, DDC-AD 66 429.
- .. Status of Gasless Delay Development in the Navy (The ..)*, by M. F. Murphy.
- Studies of Propellant Ignition by Pyrotechnic Mixtures*, by R. D. Cool, NAVORD 1578, Dec. 1950, DDC-ATI 118 138.
- .. Study of the Burning Rate of Bickford Fuse under Constant Pressure, Temperature, and Volume Conditions (A ..)*, by R. J. McHenry, K. N. Boley, NAVORD 4279, June 1956, DDC-AD 113 277.
- .. Study of Loading Pressure and Flare Performance (A ..)*, by J. W. Feagans, RDTN-61.

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BUREAU OF NAVAL WEAPONS (cont'd)

Study of the Optimum Suspension of a High Intensity Parachute Flare, by J. E. Laswell, RDTN-30.

Submarine Emergency Identification Signal Marks 41, 45 and 46 MODS O, by P. O. Cornwell, NAVORD 5476, Dec. 1959, DDC-AD 315 940.

Surface Pyrotechnics and Projectors, Ordnance Pamphlet 1177.

Surveillance Characteristics of Gasless Igniters, NAVORD 1774.

Survey of CAD Pyrotechnic and Explosive Items in U. S. Aircraft, Vol. 2, Pt. 1, R-7971, May 1962, DDC-AD 290 706; Vol. 2, Pt. 2, R-7971, May 1962, DDC-AD 290 707; Vol. 3, May 1963, DDC-AD 290 708.

Systems for Measurement of Fuse Delay and Ejection Velocity of EX-54 Photoflash Cartridge, by L. C. Hitchcock, RDTN-38.

Technical Investigation of "Exploding" Flare Fatality, by S. Fasig, RDTR-39.

Testing of MK 25 Talos Tracking Flare, by C. Armour, RDTR-6.

Testing of MK 23 Tracking Flare, by C. Armour, RDTR-8.

Tests of MK 14 MOD O Delay Elements, NOL TN 2013.

Theoretical Aspects of Visible Radiation from Pyrotechnic Mixtures and Influencing Factors Thereof, by D. M. Johnson, RDTN-21.

Theory of Colored Flame Production, by B. E. Doua, RDTN-71.

Thermal Delay Pyrotechnic Heater, by R. H. Comyn, Memo to NOL Files, Oct. 1950.

Thermal Effects of Jan Cycle on MK 56 Smoke Composition, by J. W. Feagans, RDTN-53.

Thermal Timing Device, by H. L. Benham, RDTN-44.

Thermokinetic Processes in the Pyrotechnic Production of Radiant Energy, by D. M. Johnson, RDTN-34.

Toxic Hazards Associated with Pyrotechnic Items, by R. D. Dwiggin, R-6643.

Toxic Hazards Associated with Pyrotechnic Items, by G. K. Hartmann, OP 2793, May 1959, DDC-AD 436 880.

Tracer MK 19 Evaluation, by S. M. Fasig, P. B. Morgan, NAVORD 3827, Dec. 1954.

Tracking Flare (MK 27 MOD O . .), by J. Hollis, D. White, NAVWEPS 5483.

Tracking Flare, EX 1 MOD O Static Test, by C. Armour, RDTR-1.

Two Types of Phototube Instrumentation Used in the Destructive Testing of Igniters, by H. M. Hansing, L. W. Hart, NOTS 1033, June 1952, DDC-AD 121 023.

Unique Chemical Compound: Synthesis and Characterization, by B. E. Doua, RDTN-52.

Value Engineering Study and Proposal for the MK 24 MOD 2 AP Flare, by C. Connor, R. D. Smith, T. G. Beck, R. Breedlove, R. Adams, D. P. McNevin, J. E. Brown, J. F. Elrod, RDTN-62.

Value Engineering Study and Proposal for MK-6-3 AC Float Light (Interim), J. J. Hollis, L. B. Arnold, A. W. Norris, B. D. Leach, R. VanMeter, RDTN-46.

What's Going On in Cast Pyrotechnics, by B. E. Doua, RDTN-67.

Yellow Flame Production, Chlorine and Potassium Influences, by B. E. Doua, RDTN-82.

BUREAU OF ORDNANCE

Washington, D. C. See: BUREAU OF NAVAL WEAPONS.

CALCO CHEMICAL DIVISION

See: AMERICAN CYANAMID COMPANY.

CALIFORNIA INSTITUTE OF TECHNOLOGY

Pasadena, California

Apparent Population Temperatures for OH in Flames, by S. S. Penner, TR-5, May 1952, DDC-AD 5698.

Further Studies of the Effect of Composition on the Properties of Flash Powders, by R. M. Badger, A. L. Wahrhaftig, Contract W-535-AC-24521, July 1942.

CALIFORNIA, UNIVERSITY OF

Berkeley, California

Dissociation Energies of Gaseous Metal Dioxides, by L. Brewer, G. M. Rosenblatt, Oct. 1960.

Fuel Ignition Studies, by P. B. Stewart, E. S. Starkman, F. Kreith, Series 49, Issue 1, Contract AF-33(600)17677, Sept. 1952, DDC-AD 65 419.

Fuel Ignition Studies, by P. B. Stewart, E. S. Starkman, PR Phase 2, July 1953.

Fuel Ignition Studies, Gunfire Tests, by P. B. Stewart, E. S. Starkman, TR-6, Sept. 1955.

Thermodynamic Properties of the Alkali Halides (The ...), by L. Brewer, UCRL-9952, Contract W-7405-ENG-48, Nov. 1961.

CALLERY CHEMICAL COMPANY

Expansion of a Smoke, by P. B. Olmsted, CCC-1024-TR-111, May 1955, DDC-AD 138 289.

CANADA

Ageing of Ammonium Chloride Smokes (The ...), by T. Gillespie, G. O. Langstroth, Suffield Experiment Station, Aug. 1950, DDC-ATI 88 249.

Air Tests of M-46 Flash Bombs, by P. D. Carman, T. L. Collins, National Research Laboratories, Ottawa, PO-345, Aug. 1944.

Airfield Locating Signal No. 1 MK1 and Projector MK 1. Cold Weather Operating and Storage Trials, CE and PE Report, ARM 1-52, Central Experimental and Proving Establishment, Apr. 1952.

New Delay Composition for the Fuzes 199 and 221, by G. C. Benson, E. C. Gaggis, G. F. Wright, Report XR-72.SR7/43/772(3), University of Toronto.

Optical Investigation of Initiation and Detonation. I. Reaction Time and Related Topics, by G. Herzberg, G. R. Walker, University of Saskatchewan, Mar. 1945, DDC-AD 48 955.

Research on Composition of Flash Bombs for Night Photography, by P. D. Carman, National Research Laboratories, Ottawa, PO-183, Sept. 1942. Same, by P. D. Carman, L. E. Howlett, National Research Laboratories, Ottawa, PO-297, Jan. 1944.

Self-Projecting Streaming Type Colored Smoke Signal (A ...), by Davies, Canadian Military Headquarters, Tech. Minute No. 73, Sept. 1944.

Some Factors Affecting the Performance of Fire Bombs, by W. L. Archer, Fifth Symposium, Chemical and Bacteriological Warfare, Defence Research Board, Dec. 1953.

CATALYST RESEARCH CORPORATION

Baltimore, Maryland

Research on Heat-Producing Compositions, by C. A. Poppendieck, Aug. 1958. Same, Nov. 1958.

Research on Heat-Producing Compositions, by J. M. McCauley, J. Goodkin, L. J. Apostolos, R-5, Aug. 1959, DDC-AD 315 449.

Research on Heat-Producing Compositions, by J. Goodkin, L. J. Apostolos, R-6, Nov. 1959, DDC-AD 316 836. Same, by J. Goodkin, L. J. Apostolos, R-7, July 1960, DDC-AD 317 842. Same, by J. Goodkin, Final Report, July 1960, DDC-AD 323 827.

CHEMICAL CORPS TECHNICAL COMMITTEE

Washington, D. C. Sec: ARMY MATERIEL COMMAND.

CHEMICAL LABORATORY COMPANY

Additional Models of German Smoke Signals (Rauchsichtzeichen), Orange, 80, 160 and 350, Report No. 22, Nov. 1944.

AMCP 706-189

**CHEMICAL LABORATORY
COMPANY (cont'd)**

German Hand Signals (Handrauchzeichen) Pull Type, Violet, Report No. 29, Apr. 1945.

German Hand Smoke Signals (Handrauchzeichen) Red, Blue, Violet and Green (41th Captured Material Technical Report No. 30), Dec. 1944.

German Hand Smoke Signals, Scratch Type (Handrauchzeichen) Red, Blue, Violet and Green, Report No. 20, Nov. 1944.

CHEMICAL WARFARE SERVICE
Washington, D. C. See: **EDGEWOOD
ARSENAL.**

COAST GUARD
Washington, D. C.

Field Testing and Development Unit Project CGTD X22/1-3 (163) Pyrotechnic Distress Signals, by P. O. Chapman, R-305, Oct. 1962, DDC-AD 286 948L.

Tests of Aluminum Shell Pistol Projected Red Flare Distress Signals, Lot No. 182, R-204, 1959, DDC-AD 230 821L.

Tests of Pyrotechnic Distress Signals, by P. O. Chapman, R-300, Sept. 1962, DDC-AD 284 657L.

**COLUMBIA RESEARCH AND
DEVELOPMENT CORPORATION**
Columbus, Ohio

Vulnerability Study, by W. B. Hall, J. I. Zucker, CRDC R-120-1, Contract AF-33(616)2130, Apr. 1954, DDC-AD 33 198.

**COMBINED INTELLIGENCE
OBJECTIVES SUBCOMMITTEE**
Washington, D. C. See: **MISCELLANEOUS
DOCUMENTS.**

COOK RESEARCH LABORATORIES

Design and Development of Clusters, Flares, T30 and T31, by R. Ransier, PR 52-1, May 1954, DDC-AD 56 238; PR 52-2, June 1954, DDC-AD 56 239; PR 52-3, July 1954, DDC-AD 56 240; PR 52-4, Aug. 1954, DDC-AD 56 271; PR 52-5, Sept. 1954, DDC-AD 56 272; PR 52-1, Dec. 1954, DDC-AD 60 229.

DEPARTMENT OF AIR FORCE
Washington, D. C.

Comparative Test of Oxidizers, M-46 Photoflash Bombs, by M. A. Townsley, Final Report, Proj. M-4 468, Sept. 1944.

Explanatory Notes on Conference on Photoflash Missile for High Altitude Aircraft, Sept. 1948.

Night Aerial Photography and Photoflash Bombs, Tech. Order 10-1-10, Mar. 1945, OTS-PB 37 370.

Optimum Techniques for Aerial Flash Bomb Photography, by G. T. Sowers, Proj. 4056C'413.53, Jan. 1945.

Relative Effectiveness of Various Type Bombs and Fuzes against Strategic and Tactical Objectives, Feb. 1945, DDC-ATI 40 756.

DEPARTMENT OF ARMY
Washington, D. C.

AMCP 706-210, Engineering Design Handbook, Ammunition Series, *Fuzes, General and Mechanical.*

Ammunition, TM 9-1900, 1956.

Chemical Warfare Service: From Laboratory to Field (The ...), by L. P. Brophy, D. M. Syndham, R. C. Cochrane, Office of Chief of Military History, 1959.

Filling, Smoke, Colored (For Grenade, Rifle, Smoke (Colored), M22), (Impact Type), U. S. Army Specification 96-131-261, Aug. 1945, Footnote 18, 39, 104.

Grenade, Smoke, Colored, M18, U. S. Army Specification 96-111-92, Oct. 1945, Footnote 20, 42, 101.

Grenade, Smoke, Red, AN-M3, U. S. Army Specification 96-111-46, Apr. 1945, Footnote 91.

Military Explosives, TM 9-1910.

Military Problems with Aerosols and Nonpersistent Gases, by W. A. Noyes, Jr., 1946.

Military Pyrotechnics, TM 9-1370-200, Dec. 1958.

DEPARTMENT OF DEFENSE

Washington, D. C.

Proceedings of First Meeting JANAF Thermochemical Panel (Oxides), by L. J. Gordon, Nov. 1959, DDC-AD 314 453.

DEPARTMENT OF STATE

Washington, D. C.

Colored Smoke Generators, Report 51567, Military Attache (Great Britain), Nov. 1942.

DENVER RESEARCH INSTITUTE

Denver, Colorado

Additional Studies on Properties of Pyrophoric Type Incendiary Mixes for Use in Small Arms Ammunition, by M. Piccone, Phase Report 12, Oct. 1954.

Applied Research for Threat Signature Generation Techniques, by W. A. Schmeling, Final Report, Aug. 1963, DDC-AD 340 441.

Basic and Applied Research on Small Arms Ammunition, Progress Report 46, Mar. 1954. Same, Progress Report 57, May 1954.

Basic Research on Incendiary Ammunition, by T. Zandstra, PR-41, Feb. 1952, DDC-AD 30 521.

Basic Research on Incendiary Ammunition, by T. Zandstra, Progress Reports:

- 44, Aug. 1952, DDC-AD 17 676.
- 45, Oct. 1952, DDC-AD 16 599.
- 46, Dec. 1952, DDC-AD 16 598.
- 47, Feb. 1953, DDC-AD 16 597.
- 48, Apr. 53, DDC-AD 16 596.
- 51, Aug. 1953, DDC-AD 18 242.

Basic Research on Incendiary Ammunition, by T. Zandstra, Progress Reports:

- 41, June 1953, DDC-AD 16 595.
- 50A, No. 1953, DDC-AD 22 533.
- 54, Dec. 1953, DDC-AD 23 695.
- 55, Jan. 1954, DDC-AD 25 242.
- 58, July 1954, DDC-AD 36 382.
- 59, Sept. 1954, DDC-AD 41 991.
- 60, Nov. 1954, DDC-AD 46 707.
- 61-62, Mar. 1955, DDC-AD 53 587.
- 64, June 1955, DDC-AD 67 888.
- 65, Aug. 1955, DDC-AD 70 077.
- 66, Oct. 1955, DDC-AD 74 964.

Basic Research on Incendiary Ammunition, by R. M. Blunt, Ross Buchanan, et al, Final Report, Oct. 1950, DDC-AD 44 705.

Basic Research on Incendiary Mixtures, by T. Zandstra, Progress Report 46, Dec. 1952.

Development of a Duration Photometer for Use in the Evaluation of Incendiary Ammunition, (The . . .), by G. H. Custard, W. M. DeBell, Phase Report 13, Aug. 1955.

Development of Screening Agents, by W. Culbertson, R. A. Fisher, Sept. 1955, DDC-AD 73 496.

Experimental Investigation of Infrared Radiating Sources, by R. M. Blunt, TN 4, Mar. 1962, DDC-AD 328 630. Same, by R. W. Evans, TN 9, July 1961, DDC-AD 324 807. Same, Final Report, Nov. 1962, DDC-AD 332 848.

Incendiary Ammunition Research, by T. Zandstra, Final Report, Nov. 1952, DDC-AD 17 675.

Incendiary Project, by T. W. Zandstra, Progress Report 24, June 1950.

Incendiary Project Annual Report, by C. H. Prien, S. A. Johnson, Jr., Progress Report 12, June 1949.

Infrared Decoy Study, TN 6, June 1960, DDC-AD 318 155. Same, by R. W. Evans, TN 7, Sept. 1960, DDC-AD 319 951.

Infrared Decoy Study, Phase II, by R. W. Evans, TN-3, Sept. 1959. Same, TN-4, Dec. 1959, DDC-AD 316 152.

Instrument for Determination of Transient Flame Temperatures, by G. W. Bauserman, Phase Report 4, 1952.

Resume of Reaction Rate Theory (A . . .), by T. L. Harlor, R. J. Colfee, Oct. 1954.

Small Arms Incendiary Ammunition, A Review of the History and Development, G. H. Custard, G. Francis, W. Schnackenberg, Frankford Arsenal Report R-1407-3, Dec. 1956.

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DENVER RESEARCH INSTITUTE (cont'd)

Studies of Pyrophoric Type Incendiary Mixes for Use in Small Arms Ammunition, by G. H. Custard, Phase Report 7, July 1953.

Study of the Activity of Manganese Powders (A...), DRI 1029, Contract DA-49-186-502-ORD-798, Final Report, Dec. 1959.

Theoretical Considerations Involving the Functioning of Incendiary Mixes, by G. Francis, T. L. Harlor, et al., Phase Report 8, Aug. 1953.

DIAMOND ORDNANCE FUZE LABORATORIES

Washington, D. C. Sec: HARRY DIAMOND
LABORATORIES.

DUGWAY PROVING GROUND

Utah Sec: ARMY TEST AND EVALUATION
COMMAND.

EAGLE-PICHER RESEARCH LABORATORIES

Joplin, Missouri

Turbidimetric Particle Size Analysis, by Musgrave, Harner.

EASTMAN KODAK COMPANY

Rochester, New York

Photographic and Photometric Study of Flash Bombs for Night Aerial Photography, by W. Clark, Mar. 1941.

EDGEWOOD ARSENAL (ARMY CHEMICAL CENTER)

Maryland

Aerial Smoke Marker, 70 lb. (HQ) for the Navy, by M. Cutler, TCIR 504, Oct. 1949.

Aircraft-Tracking Colored-Smoke Marker, by W. W. Reaves, K. G. Carlon, CWLR 2338, Jan. 1960, DDC-AD 231 129.

Antipersonnel Effects of Incendiaries, by W. W. Beyth, CRLIR 42, Feb. 1952.

Bomb, Incendiary, 4-lb. E53R1, by M. Cutler, TCIR-516, Nov. 1949.

Bomb, Smoke, 10 lb. (HC) M77, by M. Cutler, TCIR-72, Nov. 1950, DDC-ATI 95 174.

Bomb, Smoke, HC, 100 lb. 77, by T. A. Ruble, TDMR-933, Dec. 1944.

Bomb, Smoke, Colored, 100 lb. E34, by T. H. Guion, TDMR 1149, Nov. 1945.

Burning Rates of Ensign-Bickford Pyrotechnic Compositions, by L. G. Willke, TCIR-82, Feb. 1944.

Burster, Incendiary, E4, by L. J. Dailey, S. T. Byczuski, CWLR 2137, June 1957, Final Engineering Test No. 129.

Chemical Mortar Colored Smoke Shell (4.2-in...), by R. W. Elton, TCR-52, Dec. 1949, DDC-AD 35 830.

Color Measurements for Field Evaluation of Colored Smoke, by R. K. June, G. W. Batzis, J. D. Wilcox, CWLR 2096, Nov. 1956, DDC-AD 123 152.

Colored Signal Smokes, by L. Finkelstein, W. P. Munro, ETF 913-2, June 1944.

Colored Smoke Grenade (For Use in Airborne Operations) (E15R1...), by W. W. Reaves, K. G. Carlon, CWL(1-5), Sept. 1958, DDC-AD 204 958.

Colored Smoke Grenades, M16, by S. J. Magram, L. Finkelstein, TDMR-497, 1942.

Colored Smoke Pots for the Grenade of the Submarine Recognition Signal, EACD 384, Nov. 1926.

Colored Smoke for Skywriting and Colored Smoke for Aircraft Smoke Generator, by M. Cutler, M. J. Bessey, TDMR 1356, June 1948, DDC-ATI 205 902.

Colored Smokes, by L. Finkelstein, Vol. 12 of *History of Research and Development of the Chemical Warfare Service in World War II*, 31 December 1945, DDC-ATI 207 451.

Colored Smokes: Colored Smoke Tract Bombs E13, E13R1 and E13R2, TDMR-861, Aug. 1944.

EDGEWOOD ARSENAL (cont'd)

Colored Smokes Development of Aerial Smoke Puff Fillings, by W. P. Munro, TDMR 679, June 1943, DDC-ATI 209 847.

Colored Smokes Fast Burning Compositions for Colored Smoke Grenades, by W. P. Munro, TDMR 751, Oct. 1943.

.. Comparison of the Burn Producing Effectiveness of Two Incendiary Agents, 4.2%M1 and 5% E10 (A..), by M. J. Wargovich, CWLR 2298, Aug. 1959, DDC-AD 225 614.

Comparison of Dechlorane and Hexachloroethane in Smokescreen Compositions, by W. W. Reaves, K. G. Carlon, CRDL Spec. Pub. 1-27, May 1956 to Sept. 1960, DDC-AD 266 364.

Compatibility of WP with Aluminum in the Presence of Steel, by R. D. Kracke, S. R. Slovenko, Nov. 1950, DDC-ATI 94 874.

Conference on Health Hazards of Military Chemicals Program, by E. H. Kraekow, W. H. Chambers, Sept. 1950, DDC-ATI 91 781.

Delay Igniter for Aircraft Destructor Equipment, by T. A. Ruble, TDMR-1191, Dec. 1945.

Delay Mixture with Binder, Chemical Corps Formula B2-53.

Delay Trains for Use in the Floating Smoke Pot, by J. H. McLain, S. Mayer, TDMR-732, Sept. 1943.

Destructor Devices—Orientation and Demonstration, by Munitions Division, ETF 180-56, Aug. 1954.

Deterioration Phenomena of Pyrotechnics, by M. R. Hardenburgh, Feb. 1957.

.. Determination of Particle Size Distribution of Dyestuffs Used for Production of Colored Smoke Clouds (The..), 1947, DDC-ATI 51 537.

.. Development of a Black Smoke Candle for Signal Purposes (The..), EACD 376, Mar. 1926.

Development of the Bomb, Smoke, 10 lb. M67, by W. G. Franz, J. F. McCann, TDMR 1220, Mar. 1946.

Development of 8-inch Fire Rockets, E42 and E42R1, by J. R. Turkeltaub, CRLR 630, Mar. 1956, DDC-AD 97 551.

Development of a Fuel Destroyer, by R. E. Bolognino, CRLR-37, Nov. 1952.

Development of Grenade, Incendiary, AN-M14, by J. E. Gilbert, TDMR 1114, Aug. 1945.

.. Development of the HC Smoke Grenade, (The..), by C. M. Williams, E. T. Lawrence, S. F. Brown, ETF 271.2-1, Aug. 1923.

Development of an Improved Floating Smoke Pot, by J. H. McLain, E. R. Padavic, TDMR 822, Apr. 1944.

Development of 50-lb. Incendiary Bomb, by A. S. Berlin, J. J. Keenan, TCR-77, Jan. 1951, DDC-ATI 94 823.

Development of an Incendiary Pellet, by W. A. Show, et al, TCR 59, May 1950.

.. Development of Incendiary Units for the Destruction of the Contents of Safes and Secret Cryptographic Machines (The..), by A. P. Watts, TDMR 1140, Oct. 1945.

Development of the E7 Incendiary Warhead for the B-61A Matador Pilotless Bomber, by T. W. Trauberg, CWLR 2085, Feb. 1957, DDC-AD 124 310.

Development of Reworking Procedure for the Grenade, Hand, Incendiary, AN-M14, by M. Cutler, W. W. Reaves, CRLR 219, July 1953, DDC-AD 16 991.

Development of RIB, Incendiary, E4 and E7, by V. J. DiPaola, A. I. Alper, CRLR-438, July 1955.

Development of the Starter, Fire, E7, by R. D. Kracke, C. H. Peck, TCR 61, June 1950.

Development and Test of Igniter E14R1 (M23) and Fuse E9R34 (M173) for Fire Bombs, by D. M. Cohen, D. Shneck, R. B. Wheeler, CRLR 330, Apr. 1956.

EDGEWOOD ARSENAL (cont'd)

Dissemination of Toxic Chemical Agents by Thermal Generation, by M. Cutler, CRLR-11, Aug. 1951.

Effect of First Fire Mixtures on Functioning of 2.36" Rockets Filled TH., by D. A. Bridges, TCIR-147, July 1944.

Effects of Heat and Air at Normal and at High Humidity on Powdered Metallic Magnesium and Barium Chromate Mixtures, by A. Green, R. A. Reynolds, TDMR-1344, Jan. 1948.

Evaluation of the Antipersonnel Effectiveness of Several Incendiary Agents, by E. J. Robinson, M. J. Wargovich, CWLR 2070, Oct. 1956.

Evaluation of Antipersonnel Incendiary Munitions, by W. W. Beyth, D. R. Howes, CRLR-58, Aug. 1953, DDC-AD 25 180.

Evaluation of Methyl Aluminum Chloride as an Incendiary, by S. J. Magram, CRLR 23, Dec. 1951.

Evaluation of a Plastic Bonded HC Smoke Composition for the M8 Grenade, by J. E. Andrews, Jr., K. G. Carlon, W. W. Reaves, CWL-15-21, May 1957.

Fast Burning DM Mixture (A.), by W. W. Reaves, K. G. Carlon, CWL-15-22, June 1958.

Field Tests of M18 Colored Smoke Grenades, Report of Army Chemical Corps Board, Project No. 352, Mar. 1944.

Field Tests of Grenades, Smoke, Red, AN-Me, Report of Army Chemical Corps Board, Project No. 378, Feb. 1944.

Final Engineering Testing of the Grenade, Hand, Colored Smoke, E15R1, TR-DPGR 239, Dec. 1959.

Final Engineering Testing of WP Filled Igniter, by W. Avery, DPG Test Plan 348, Mar. 1957.

First Fires for Magnesium Bombs, Development of FF20, by S. J. Magram, TDMR-755, Oct. 1943.

Flame Fougasse and Similar Flame Weapons, by O. B. Mahaffie, S. P. DiMattia, Cml C. Bd. Study 12-52, Dec. 1952.

Fundamental Study of Screening Smokes: Measurement of Visibility, Transmission, and Reflection, by D. Ehrenfield, EATR117, Mar. 1941.

Grenade, Colored Smoke, E15R1 (For Use in Airborne Operations), by W. W. Reaves, K. G. Carlon, CWL-15-20, May 1957.

Grenade, Hand, Riot, CN E3R2, by R. W. Elton, TDMR-951, Dec. 1944.

Grenade, Hand, Riot, CN, E13, by F. E. Egner, TCR-8, Sept. 1948.

Grenade, Hand, Riot, (CN) E14, by F. B. Hale, TCIR-446, Jan. 1949.

Grenade, Hand, Smoke, HC M8—Aluminum-Zinc Oxide Hexachloroethane Filling, by L. Finkelstein, B. Becker, TDMR-472, Nov. 1942.

Grenade, Hand, Smoke, WP, M15, by R. W. Elton, TDMR-959, Jan. 1945.

Grenade, Smoke, Hand and Rifle, WP, E16, by G. P. Silling, CRLR 119, Feb. 1953, DDC-AD 3394. Same, CRLR 205, June 1953, DDC-AD 16 920.

High Temperature Thermit-Type Ignition Compositions, Development of FF30, by S. J. Magram, J. J. Blissel, TCR-62, May 1950.

History of Research and Development of the Chemical Warfare Service in World War II, (1 July 1940-31 Dec. 1945), 18 Volumes, A series of monographs on the Chemical Warfare Service in World War II, DDC-AD 51 226, DDC-AD 48 316, DDC-TIP C8059, DDC-AD 42 047.

Ignition Mixture with Binder, Chemical Corps Formula B2-50.

Improved Phosphorus Smoke, by R. D. Kracke, TCR-13, Mar. 1949.

Improvement Study for Incendiary Safe and Equipment Destroyer, M2A1, by W. W. Reaves, J. J. Blissel, CRDL SP 1-21, Aug. 1960.

EDGEWOOD ARSENAL (cont'd)

- Incendiaries*, by A. S. Berlin, CWL 440-1, May 1957.
- Incendiaries*, Vol. 18, Part II of *History of Research and Development of the Chemical Warfare Service in World War II*, by L. Finkelstein, A. E. Gaul.
- Incendiary Agents*, by Chemical Division, ETF 182-14, June 1952.
- Incendiary Agents Summary*, by L. Cohen, CWL SP-1-1, Jan. 1958.
- Incendiary, TH, Improved Bares Thermit as a Substitute for Therm-9*, by L. Finkelstein, S. J. Magram, TDMR-407, July 1942.
- .. Inflammability and Sensitivity Tests of Violet Smoke Mixes Submitted By Chemical Warfare Service (Report on ..)*, by I. Hartment, M. A. Elliott, Chemical Warfare Service Report 2653-K 317, Mar. 1945.
- Inflammable Alloy for Incendiary Bomb Bodies*, by O. B. Mahaffie, Sept. 1950, DDC-ATI 84 047.
- .. Infrared Screening Properties of Smoke (The ..)*, by R. E. Shaffer, J. J. Ford, Jr., Dec. 1954, DDC-AD 76 034.
- Initiant Smokes: A Preliminary Investigation*, by L. Finkelstein, ETF-120-5, Nov. 1938.
- Investigation of a Long Burning Plastic Bonded, Colored Smoke Mixture*, by W. W. Reaves, J. H. Hassmann, DDC-AD 233 750.
- Investigation of Yellow Dyes for Use in the M18 Colored Smoke Grenade*, by W. W. Reaves, K. G. Carlon, CWLR 2336, Jan. 1960, DDC-AD 231 128.
- Iron-Herachlorethane-Potassium Chlorate Smoke Mixtures*, by E. M. Wharton, L. Finkelstein, TIMR 516, Dec. 1942.
- Miniature Colored Smoke Candles*, by M. Cutler, R. Rodriguez, TCIR 539, Mar. 1950.
- Modification of Incendiary Grenade AN-M 14 (THERMIT) for Electrical Firing*, by F. L. Schaf, W. J. Green, ETF 273-6, Jan. 1947.
- Modification of M50 4-lb. Magnesium Bomb as Fire Bomb Igniter E17*, by J. J. Keenan, R. J. Classen, M. Cutler, CRLIR-4, Mar. 1951, DDC-ATI 100 440.
- Modification of Starter Cup Assembly of Pot. Smoke, HC, M1*, by M. Cutler, TCIR-434, Dec. 1948.
- Modifications to Increase the Antipersonnel Effect of the Grenade, Hand, Smoke, WP, M15*, by A. C. Fairchild, TDMR 2239, Apr. 1946.
- .. New Method of Comparing Ignition Sensitivity of Pyrotechnic Mixtures (A ..)*, by J. H. McLain, A. L. Prahm, TDMR 882, Sept. 1944.
- Nontoxic Smoke Training Candle*, by M. Cutler, J. C. Holeck, TDMR 1334, Jan. 1948, DDC-ATI 50 275.
- Pot, Smoke, HC, M1 Aluminum-Zinc Oxide-Herachloroethane Filling*, by J. H. McLain, TDMR 559, Feb. 1943.
- Preliminary Investigation of Colored Smoke for Aircraft Smoke Generator*, by J. C. Driskell, M. Cutler, M. J. Bessey, TDMR 1324, Aug. 1947, DDC-ATI 205 903.
- .. Preliminary Investigation of Sulfamic Acid for New Screening Smoke Mixtures (A ..)*, by S. J. Magram, J. D. Wilcox, CWLR-2138, July 1957.
- Sensitivity of Colored Smoke Mixtures*, by S. J. Magram, TDMR547.
- Series of Static Tests of a Thermal Grenade Filled Agent EA 1779*, by F. L. Horning, D. M. Shaw, TM 33-21, Apr. 1959, DDC-AD 308 173.
- Shell, Smoke, (HC) 57mm, Base Emission*, by T. A. Ruble, TDMR-993, Feb. 1945.
- Slow Burning Compositions for Bombs E23X and E5X*, by L. G. Willke, H. O. Backstrum, TCIR-167, Aug. 1944.
- Small Emergency Fire Starter*, by M. Cutler, R. D. Kracke, TCR 21, 20 Dec. 1948.

AMCP 706-189

EDGEWOOD ARSENAL (cont'd)

Smoke Munitions for Airborne Operations, Smoke Bomb E2, by J. H. Glayes, L. C. Andrews, TDMR-823, 1944.

Smokes and Munitions Applicable to Spotting and Tracking Charges for Guided Missile Test Vehicles, by C. T. Mitchell, G. E. Miles, H. E. Norton, etc., May 1948, DDC-ATI 25 776.

Starters, Vol. 16 of *History of Research and Development of the Chemical Warfare Service in World War II*, by S. J. Magram, Apr. 1954.

Survey of Starters for Burning Type Munitions (A...), by S. J. Magram, TDMR 655, May 1943.

Summary of PWP Literature to 1 July 1946, by C. J. Moxley, TDMR 1287, Nov. 1946.

Trial Report Smoke Grenades (WP-E16), by D. W. H. Dickson, CRDL 550, E-325, Nov. 1961.

ELECTROMAGNETIC WARFARE AND COMMUNICATIONS LABORATORY

Wright-Patterson Air Force Base, Ohio See:
AIR TECHNICAL SERVICE COMMAND.

EXPERIMENT, INC.

Combustion of Elemental Boron, Quarterly Summary Reports, 1956-1958.

EXPLOSIVES RESEARCH LABORATORY

Bruceton, Pennsylvania

Application of Flash Photography to the Study of Explosion Phenomena (The...), by E. M. Boggs, R. J. Brumbaugh, G. H. Messerly, OSRD 5616, Jan. 1945.

FACTORY MUTUAL RESEARCH CORPORATION

Incendiary Evaluation Project Report IEP/7, Comparative Incendiary Effectiveness of the E-19 and M-50 Incendiary Bombs, by N. J. Thompson, M. Dakin, Apr. 1945, DDC-ATI 33 319.

FELTMAN RESEARCH LABORATORIES

See: **PICATINNY ARSENAL.**

FERRO DRIER AND CHEMICAL COMPANY

Investigation of Magnesium Pastes for Use in Incendiary Mixtures (A...), by O. O. Kenworthy, J. F. Uher, et al.:

R-1, Feb. 1949, DDC-AD 264 098.

R-2, Mar. 1949, DDC-AD 264 099.

R-3, Apr. 1949, DDC-AD 264 100.

R-4, May 1949, DDC-AD 264 101.

R-5, June 1949, DDC-AD 264 102.

R-6, July 1949, DDC-AD 264 103.

R-7, Aug. 1949, DDC-AD 264 104.

Investigation of Magnesium Pastes for Use in Incendiary Mixtures (A...), by O. O. Kenworthy, J. F. Uher, et al.:

R-8, Sep. 1949, DDC-AD 264 105.

R-9, Oct. 1949, DDC-AD 264 106.

R-10, Nov. 1949, DDC-AD 264 107.

R-11, Dec. 1949, DDC-AD 264 108.

R-12, Jan. 1950, DDC-AD 264 109.

FOOTE MINERAL COMPANY

Berwyn, Pennsylvania

Factors Controlling the Combustion of Zirconium Powders, by H. C. Anderson, et al.

Special Chemical and Physical Analyses of Zirconium Metal Powders, Project 22121, Report 22451, Feb. 1958.

FRANCE

Special Rockets and Pyrotechnics Problems, by J. G. Thibodaux, R-396, July 1961. Advisory Group for Aeronautical Research and Development, Paris, DDC-AD 287 544.

FRANKFORD ARSENAL

Philadelphia, Pennsylvania

Ammunition, Caliber .50, Spotter-Tracer, for Use with the 106mm Recoilless M40 System, by R. E. Donnard, H. B. Whitmore, Jr., M59-10-1, Feb. 1959.

FRANKFORD ARSENAL (cont'd)

- Analysis of Tracers and Igniters in Small Arms Ammunition*, by G. Norwitz, TR8-7647, Aug. 1959, DDC-AD 226 459.
- Apparatus for Determination of Smoke in Powder as Applied to Cal. 30 Ammunition (An...)*, by H. C. Normile, R-14, Sept. 1933.
- Chemical Balance of the P4 Primer*, by H. A. Kirshner, R-987, Oct. 1950.
- Comparative Gas Evolution Rates, Magnesium Metal in Water and in Calcium Hydroxide for Tracer Compositions*, by A. Gallaccio, MR-2242, Dec. 1943.
- Comparison of Impact Sensitivity of Incendiary Mixtures*, by T. Stevenson, MR 2203, Nov. 1943.
- Delay Action and Dim Igniters for Small Arms*, by T. Stevenson, R-708, Feb. 1946.
- Delay Action Tracer Ammunition*, by T. Stevenson, E. R. Rechel, R-44, June 1940.
- Determination of Active Titanium in Titanium Powder Used for Pyrotechnics*, by M. Codell, R. P. Egan, G. Norwitz, MR-5189, Feb. 1957, DDC-AD 126 887.
- Determination of the Product Residues and Maximum Flame Temperatures of Several Primer Mixtures (A...)*, by M. E. Levy, R-1206, May 1954.
- Determination of Small Amounts of Copper and Iron in Red Phosphorus (The...)*, by C. W. Dittrich, R-644, Aug. 1945.
- Determination of Small Amounts of Iron in Red Phosphorus*, by C. W. Dittrich, R-528, June 1944.
- Determination of the Specific Surface of Three Samples of Nickel Powder Submitted by Picatinny Arsenal*, by C. W. Dittrich, M. S. Silverstein, MR-403, Nov. 1948.
- Development of Cartridge, Spotter-Tracer Caliber .50 T1893E*, by V. J. Olevich, R-1439, Feb. 1959, DDC-AD 214 397.
- Development and Evaluation of Delay Initiators, M1 and M6A1*, by L. D. Sachs, R-1344, May 1956 (American Machine and Foundry Co.)
- Development and Evaluation of Initiator, Delay, M10*, by L. D. Sachs, R-1362, July 1956.
- Development and Evaluation of Initiators, M3 and M5A1*, by L. D. Sachs, R 1324, June 1956 (American Machine and Foundry Co.)
- Development of an Incendiary Bullet*, by P. L. Fox, W. E. Kavasch, R-105, Dec. 1941.
- Development of Methods for Alumination of Red Phosphorus*, by H. Zislin, R-532, Aug. 1944.
- Development of a Rapid Safe Peroxidation Procedure for the Stabilization of Commercial Red Phosphorus*, by M. L. Burroughs, G. F. Nordblom, R-531, July 1944.
- Development of a Satisfactory Bullet for Cartridge, Tracer, Caliber .30 M2*, by M. A. Fry, R-849, Feb. 1948.
- Development of Spotting Cartridge for the PAT-234 Recoilless Rifle System*, by R. C. Reagan, MR-702, Oct. 1958.
- Development of Tracer Ammunition at Frankford Arsenal during 1923, 1924, 1925*, by S. P. Meek, R-233, June 1925.
- Development of Tracer Ammunition at Frankford Arsenal during 1925 and 1926*, by S. P. Meek, R-216, Dec. 1926.
- Dichromated Magnesium, Magnesium-Aluminum Alloy and Atomized Magnesium in Small Arms Tracer Composition*, by T. Stevenson, R-793, May 1947.
- Effect of Certain Inorganic Compounds on the Oxidation Rate of Red Phosphorus*, by M. S. Silverstein, J. J. Jakabcin, C. W. Dittrich, R-205, Sept. 1942.
- Effect of Changes in Mass of the Falling Ball on the Sensitivity of Primers*, by C. W. Churchman, MR 6, Sept. 1943, Primer Info. Bul. 6.

FRANKFORD ARSENAL (cont'd)

- Effect of Copper and Iron on the Oxidation Rate of Red Phosphorus with a Method for Removing Copper*, by M. L. Burroughs, G. F. Nordblom, R-690, Jan. 1946.
- Effect of Iron Added During Alumination on the Stability of Red Phosphorus*, by H. Zislin, M. S. Silverstein, R-716, Apr. 1946.
- Effect of Iron-Complex Formation Compounds on the Stability of Red Phosphorus*, by H. Zislin, R-703, Feb. 1946.
- Effect of Iron on the Stability of Red Phosphorus (The . . .)*, by M. L. Burroughs, G. L. Nordblom, R-658, Oct. 1945.
- Effect of Magnesium Granulation on the Function and Stability of I-276 Igniter in Caliber .50 Tracer*, by W. W. Cavell, MR-374, Nov. 1947.
- Effect of Metals on the Oxidation Rate of Red Phosphorus*, by J. J. Jakabein, M. S. Silverstein, R-187, May 1942, DDC-ATI 197 084.
- Effect of Parlon upon the Sensitivity of Pyrotechnic Compositions (The . . .)*, by D. Jacobs, MR 523, Nov. 1952, DDC-ATI 173 556.
- Effect of Particle Size on Rate of Oxidation of Red Phosphorus*, by M. Silverstein, J. J. Jakabein, R-139, Jan. 1942.
- Effect of Preblending Time on Igniter Stability*, by T. Stevenson, MR 39, Mar. 1945, Tracer Info. Bul. 2.
- Effect of Primer Pellets Weight on Sensitivity (The . . .)*, by E. M. Arnold, MR 14, Dec. 1943, Primer Info. Bul. 14.
- Effect of Variation of Cavity Geometry upon Small Arms Tracer Burning*, by R. Shulman, R-1421, Nov. 1957, DDC-AD 159 241.
- Effectiveness of Small Arms Incendiary Ammunition at High Altitudes*, by D. Jacobs, J. Caven, R-1392, DDC-AD 139 640.
- Electrostatic System for Recording Primer Ignition Time (An . . .)*, by J. V. Dunham, N. K. Turnbull, R-28, Oct. 1938.
- Engineering and Laboratory Evaluation to Improve Test Procedures in Military Specification MIL-C-20470, Calcium Resinate*, by G. Norwitz, T60-19-1, Mar. 1960.
- Evaluation of Methods and Equipment for Determining Incendiary Flash and Ignition Characteristics*, by S. C. Piccoli, R-1411, Jan. 1958, DDC-AD 200 092.
- Examination of German 7.92mm AP Incendiary Ammunition*, by M. Wiater, MR-1547, Mar. 1943, DDC-ATI 41 245.
- Examination of German 7.92mm AP Incendiary Ammunition, High Velocity, (FMAM 717)*, by M. Wiater, R-536, 1945, DDC-ATI-125 755.
- Examination of German 7.92mm Incendiary Observing Type Ammunition*, by M. Wiater, R-330, Sept. 1943, DDC-X9241.
- Examination of German 7.92mm Mauser AP Incendiary Ammunition*, by M. Wiater, R-328, July 1943.
- Examination of German 20mm Mauser Incendiary Tracer Ammunition (FMAM-431)*, by M. Wiater, R-501, 1945.
- Examination of German 20mm Mauser AP Incendiary Ammunition (FMAM 612)*, by M. Wiater, R-492, 1944.
- Examination of German 20mm Solothurn, AP Incendiary Tracer Ammunition (FMAM-356)*, by M. Wiater, R-505, 1945.
- Examination of Ten Rounds of 20mm Hispano-Suiza Ammunition with Incendiary Bearing Armor-Piercing Projectiles*, by W. H. Quittman, D. C. Fiether, MR-494, Feb. 1952, DDC-ATI-156 113.
- Examination of Ten Rounds of Hispano-Suiza 20mm Ammunition with High Explosive, Incendiary Shell*, by W. H. Quittman, MR-515, Aug. 1952, DDC-ATI 162 295.
- Examination of Italian 8mm Incendiary Ammunition (FMAM-357)*, by M. Wiater, R-501.

FRANKFORD ARSENAL (cont'd)

- Examination of Japanese 7.7mm Incendiary Ammunition*, by S. Lipson, R-305, Apr. 1943, DDC-AT1 192 562.
- Examination of Unfired Soviet 14.5mm API, Type BS-11 (FMAM-2125) and 20mm API, Type BZ (FMAM-2231) Ammunition*, by W. H. Quittman, MR-574, Feb. 1954, Proj. TRS-0035, DDC-AD 33 301.
- Expendable Drop-Test Pin for Measuring Impact Sensitivity of Pyrotechnic Compositions*, by T. Q. Ciccone, Tracer Info. Bul. 4, MR-306, May 1946.
- Explosion-Proof, Automatic, Flare Detection Equipment*, by L. Gallun, E. Roffman, R-1104, Nov. 1952.
- Factors Affecting the Sensitivity of the M36A1 Primer*, by E. M. Arnold, MR 30, June 1944, Primer Info. Bul. 30.
- Factors Affecting Small Arms Tracer Burning*, by R. S. Shulman, RN-R-1287, Sept. 1955, DDC-AD 80 279.
- Flare Detection Equipment*, by R. F. LeVino, E. Roffman, R-936, Sept. 1949.
- Functioning and Stability of Igniter 1-194 Containing Strontium Peroxide of Special Composition*, by W. W. Cavell, R-790, May 1947.
- Heat Powder, FZ-81, Non-Gaseous*, VE-PD-104, Rev. 2, July 1954.
- History*, Part IV, up to 30 Sept. 1943.
 QR-4, 1 Oct. to 31 Dec. 1943.
 QR-1, 1 Jan. to 31 Mar. 1944.
 QR-2, 1 Apr. to 30 June 1944.
 QR-3, 1 July to 30 Sept. 1944.
 QR-4, 1 Oct. to 31 Dec. 1944.
 QR-1, 1 Jan. to 31 Mar. 1945.
 QR-2, 1 Apr. to 30 June 1945.
 QR-3, 1 July to 30 Sept. 1945.
 QR-4, 1 Oct. to 31 Dec. 1945.
- Human Engineering Evaluation of the XM-28 Spotter System*, by A. C. Karr, M-59-24-1, May 1959.
- Igniter Compositions I-276*, by A. Gallaccio, MR-2940, Aug. 1945.
- Incendiary Bullet, Cal. .50, T58 White Phosphorus*, by T. Q. Ciccone, R-719, May 1946. DDC-X9544.
- ..Incendiary Bullet Development (Cal. .30..)*, by E. R. Rechel, R-680, Dec. 1945, DDC-X9446.
- Incendiary Compositions Containing Metallic Phosphides for Cal. .50 Ammunition*, by T. Q. Ciccone, R-784, Apr. 1947.
- Incendiary Compositions Containing Oxidizers Substituted for Potassium Perchlorate*, by T. Q. Ciccone, T. Stevenson, R-744, Oct. 1946.
- ..Investigation of Alkaline Earth Superoxides (An..)*, by G. Kmecek, A. Shochet, R-1144, Dec. 1953, DDC-AD 22 400.
- Investigation of a Close Tolerance Pyrotechnic Metallic Delay Element*, by W. R. Peterson, R-1693, Sept. 1963.
- ..Investigation of Various Type Chemicals for Use in Pyrotechnic Compositions (The..)*, by S. E. Piccoli, R1377, Apr. 1957, DDC-AD 143 962.
- Key-Sheet-Incendiary Composition.*
- Kinetics of the Corrosion of Atomized Magnesium in Moist Air*, by J. E. Regan, M. S. Silverstein, R-1092, July 1952.
- Kinetics of the Corrosion of Magnesium in Moist Air*, by J. E. Regan, M. S. Silverstein, R-981, Nov. 1950.
- Laboratory Simulation of Tracer Function*, by T. A. Doris, W. W. Cavell, R-1704, Jan. 1964.
- Magnesium-Aluminum Alloy as a Substitute for Magnesium in Tracer Composition*, by E. R. Rechel, T-570, Mar. 1942.
- ..Magnesium Powder (Grade B..)*, by T. Stevenson, T-1227, Oct. 1942.
- Manual for Proposed Acceptance Test for Sensitivity of Percussion Primers*, by C. W. Churchman, R-259A, Jan. 1943.

FRANKFORD ARSENAL (cont'd)

- Manufacture of Tracer Bullets, Caliber .60*, by H. W. Euker, T-2176, July 1943.
- Manufacturing Process for Bullet, API Cal. .30, FATH E48 Using Incendiary Pellets*, by A. G. Tomassetti, R-1182, Jan. 1954.
- Method for Measuring Incendiary, Igniter and Tracer Compositions for Impact Sensitivity*, by A. Galluccio, T. Q. Ciccone, MR 258, Nov. 1945, Tracer Info. Bul. 3.
- Method of Testing Sensitivity of Primers, Percussion M36A1-VVI-GE(3)*, by M. A. Fry, R-983, 1950.
- Most Economical Sample Size for Drop Testing Cal. .30 Primers (The...)*, by J. A. Darby, R-69, July 1941.
- New Bomb Method for Determining the Stability of Aluminated Red Phosphorus (A...)*, by G. F. Nordblom, R-924, Oct. 1949.
- Oxidation of Red Phosphorus*, by M. Silverstein, R-62, Feb. 1941. Same by M. Silverstein, J. W. Mitchell, R-62A, June 1941.
- Particle Size Classification of Red Phosphorus*, by H. Zislin, M. S. Silverstein, R-530, July 1944.
- Preliminary Study of Some Basic Factors Affecting the Burning Rates of Tracer and Igniter Mixtures*, by J. B. Reed, R-283, Mar. 1943, DDC-ATI 206 911.
- Pressure-Time Studies of Various Small Arms Priming Compositions—Project TS1-11-17*, by H. A. Kirshner, R. T. Eckenrode, MR-505, June 1952, DDC-ATI 162 296.
- Pyrotechnic Delay Devices for Low Energy Detonating Cord Systems*, by J. F. Kowalik, M64-26-1, Apr. 1964.
- Relation of Impact Sensitivity, Ignition Temperature, and Barrel Length to Igniter Functioning in Tracer Bullets*, by T. Stevenson, MR 346, Jan. 1947, Tracer Info. Bul. 5.
- Sensitivity Drop Tests on Loose Pyrotechnic Powder Compositions of Incendiary, Igniter and Tracer Types*, by J. J. Caven, MR-564, Tracer Info. Bul. 8, 1958, DDC-AD 21 696.
- ...Sensitivity Test for Primer Compositions (A...)*, by E. M. Arnold, MR 10, Oct. 1943, Primer Info. Bul. 10.
- Smoke Tracer Caliber .50 T98*, by W. W. Cavell, T. Stevenson, R-1025, Nov. 1951.
- Specific Surface of Powdered Magnesium by Gas Adsorption*, by C. W. Baulknight, C. W. Dittrich, M. S. Silverstein, R-952, Dec. 1949.
- Spectral Energy Distribution of Incendiary Bullet Flame*, by D. J. Troy, T-1987, Feb. 1943.
- Spectrochemical Analysis of Impurities in Barium Nitrate*, by H. Levitsky, G. Ritzheimer, T60-17-1, Jan. 1960.
- ...Stabilization of Commercial Red Phosphorus, (The...)*, by M. S. Silverstein, G. Nordblom, R-206, Apr. 1943.
- Stabilization of Red Phosphorus*, by H. Zislin, R-660, Oct. 1945.
- Standardization of Drop Test Machines Used to Inspect Small Arms Primers*, by M. R. Stevens, C. W. Churchman, R-458, Feb. 1944.
- Strontium Tetroxide in Strontium Peroxide*, by T. Q. Ciccone, R-669, Nov. 1945.
- Study of Particle Size and Shape of Tracer Components by Means of Electron Microscopy*, by R. Feder, MR 459, May 1951.
- ...Study of Variations in Static Burning Rates of Caliber .30 and Caliber .50 Tracer Bullets Taken from Daily Production (A...)*, by J. B. Reed, M. E. Stevens, R-702, Feb. 1946.
- Subsieve Particle Size Distribution of Powdered Magnesium by Sedimentation in Andreason Pipette*, by J. E. Regan, M. S. Silverstein, R-877, Nov. 1948.
- Surface Chemistry of Primers and Tracers*, by M. S. Silverstein, R-434, Nov. 1943, DDC-X9269.

FRANKFORD ARSENAL (cont'd)

Thermal Stability of Parlon and Its Mixtures with Barium Peroxide and Red Toner, by R. A. Garstka, MR-650, May, 1957, DDC-AD 135 233.

Thermochemistry of Priming Mixtures (The...), by R. F. Wilkinson, R-970, Apr. 1950.

Tracer Ammunition Investigations, by E. R. Rechel, T. Stevenson, R-26, June 1938.

Tracer Development for Fixed Fin Stabilized Ammunition, by D. Crowl, R-1315, Apr. 1956.

Tracer Investigations, by E. R. Rechel, R-4, Nov. 1929.

Use of Metallic Aluminum for the Stabilization of P4 Primers 3/362 (The...), by C. W. Dittrich, M. S. Silverstein, R-788, Mar. 1947.

X-Ray Examination of Barium Peroxide and Igniter Mixture Submitted by Picatinny Arsenal for Evidence of Barium Peroxide Octahydrate, by J. B. Reed, M. R. Stevens, R-418, Oct. 1943.

GENERAL ELECTRIC COMPANY

Photoflash Lamps, by F. S. Hawkins, J. W. Ryde, British Patent 737,594, Feb. 1953.

GLOBE INDUSTRIES, INC.

Photoflash System, by R. A. Stein, L. S. Wasserman, June 1951, U. S. Patent 2,609,523.

GREAT BRITAIN

Accuracy of Pyrotechnic Delays (The...), by A. N. Mosses, RAE Tech. Note ARM 584, Apr. 1956.

Air Sea Warfare Illumination Systems, Ministry of Supply, DOR/S598, Apr. 1954.

Aluminum Powder—High Explosive Flash Bombs. Modifications to the Aluminum Powder Container, by J. C. Cackett, R. F. Wilkinson, ARD 42/47, 1947.

Application of Lead Tubing to the Filling of Pyrotechnic Delays (The...), by A. M. Scott, X4/3/58.R.

Appreciation of the Problem of Night Photography from 50,000 feet (An...), by J. B. Reid, Royal Aircraft Establishment Tech. Note PII 407, Jan. 1947.

Base Ejection Smoke Shell. Comparative Trial for Screening Effect (18 Pdr. ...), by R. Kingan, PR 1578, July 1936.

Base Ejection Smoke Shell. Shell Q. F. 25 Pdr. Gun to DD/L/7223B. Smoke Efficiency Trial, by E. L. Davies, PR 1992, Oct. 1938.

Base Ejection Smoke Shell. Use of Zinc Dust instead of Calcium Silicide. Trial with 3.7" How Shell 26.9.35, by E. W. Bateman, W. G. Abinett, PR 1418, Oct. 1935.

Battlefield Illumination, by J. C. Cackett, ARDE 60/54, Dec. 1954, DDC-AD 84 378.

Browning Tracers. A Report on the Development of Method of Filling for Air Service Tracers (0.5" ...), RDER 371/42, Dec. 1942.

Burning of Single Drops of Fuel, Part I, Temperature Distribution and Heat Transfer in the Pre-Flame Region, (The...), by G. A. E. Godsave, National Gas Turbine Establishment, R-66, Mar. 1950.

Burning Time of Illuminating Flares, Discussion of Factors Affecting Burning Time and their Control at Manufacture, by J. S. Forbes, CCI Report L/301/3011, Sept. 1946.

Climatic Tests on Calcium Silicide Smoke Candles (Report on...), by E. W. Bateman, PR 1179, July 1933.

Color Measurement of Target Indicator Candles, by R. G. Horner, Selo Physics Laboratory, Ilford Ltd., RW 4, May 1945. Same, F18, 1945.

Dark Ignition. The Development of a Priming Composition to Give a Dark Ignition (DI) Period of 100 yards (.303" G. MK. III...), RDER 366/42, Dec. 1942.

Dark Ignition. The Development of a Priming Composition to Give a Dark Ignition Period of Less Than 50 yards (.303" G. MK VI...), RDER/42, Oct. 1942.

GREAT BRITAIN (cont'd)

.. *Dark Ignition. A Report on the Effect of Addition of Magnesium Carbonate to SR 368 on the Length of Brilliancy of Trace (.303" G. MK III with .)*, RDER/42, June 1942.

Delay Compositions Containing Amorphous Boron, by J. C. Cackett, F. P. Watkins, ARE 23/53, Nov. 1953.

Design for an Incendiary Bomb, by R. Saliger, Halstead Exploiting Centre, Nov. 1945, DDC-AT1 120 684.

Deterioration of Smoke Stores—Meeting at Tondur 11.2.43, AC 3842, H.2023/43, 1943.

.. *Determination of the Particle Size Distribution of Dyestuffs Used for the Production of Coloured Smoke Clouds—A Method Based on the Rate of Sedimentation (The .)*, by J. T. Stack, G. D. Heath, Porton Tech. Paper 23, C 2701, Sept. 1947.

Development and Design of Weapons for Coloured Smoke, by G. D. Heath, P.Mon.9.214, Feb. 1946.

.. *Development of the Direct-Ignition Shell Tracer (1917-1921) (The .)*, by J. S. Dick, RDER 306/43, Sept. 1943.

.. *Development of Improved Tracking Compositions of the SR 372 Type for 20mm Oerlikon Ammunition with 100 yds. and 250 yds. Dark Ignition (The .)*, by E. A. Hutton, ARD 33/48, Oct. 1948.

Development of the 1 3/4-in. Photoflash Cartridge and its Fuze, by H. C. Reynard, MOS ARM 609, Aug. 1957, DDC-AD 157 734.

Development of Pitch-Sodium Nitrate Smoke Generators, by R. M. A. Welchman, E. W. Bateman, PR 2685, June 1945.

.. *Development of a Plastic, Cold Setting Screening Smoke Composition (The .)*, by M. A. P. Hogg, PTP 507, Oct. 1955.

Development of Pyrotechnic Igniters for a 6" Ramjet, by K. H. Porter, RAE Tech. Note GW 200, 1952.

.. *Development of Pyrotechnics (The .)*, ARDE, LA 110/25/06, Dec. 1960, DDC-AD 322 009L. Same, Aug. 1960, DDC-AD 318 291L.

.. *Development of Smoke Generators Containing Pitch and Sodium Nitrate (Report on the .)*, by J. L. Walpole, E. A. Perren, B. Monat Jones, PR 2222, June 1941.

.. *Development of Stabilized Compositions for the Grenade, Hand, Colored Smoke, No. 83 (The .)*, by M. A. P. Hogg, PTP 673, Mar. 1959, DDC-AD 312 055.

Dispersion and Combustion of Metallic Powders in Air, by J. H. Hildebrand, London Mission Memo to NDRC, 31 July 1943.

.. *Effect of Variations in Atmospheric Pressure on the Combustion of Pyrotechnic Compositions (The .)*, by J. C. Cackett, Ministry of Supply Report 61/54, Dec. 1954, DDC-AD 84 379.

Effect of Variation of Carbon Tetrachloride Content on Functioning of Compositions PN 314 and PN 398, by W. N. J. Bright, PR 2668, Mar. 1945.

Elastic Pyrotechnics: Part I: Development of the 1 1/2-inch Signal Cartridge, by G. W. Hastings, Ministry of Supply, 16/R/59. *Part II: The Early Stages in the Development of a Suitable Binder System*, by G. M. Hastings, ERDE Tech. Memo 22/M/60, Mar. 1961, DDC-AD 323 647.

Examination of Some Delay Compositions for Use in the Q.F. 40 m/m calibre Gun Fuzes and Similar Systems, by N. Griffiths, X2/ARDE, Lang. 57/R295.

Experimental Incendiary Compositions—Sensitivity and Flash Tests, Ministry of Supply, AC 4944 INC/SCI 35, Oct. 1943.

.. *Experiments with 20-lb. Cooper Bombs Charged WP and RP Conglomerate (Report on .)*, by C. Ross, PR 212, Oct. 1924.

Experiments on the Corrosion of Magnesium by Nitrates in Pressed Pellets, by C. J. Wilkins, E. F. Caldin, ARD Exp. Rept. 631/44, 1944.

GREAT BRITAIN (cont'd)

- Explosive Fillers with Additional Incendiary Effect, German Patent (Translation)*, by Weidle, Halstead Exploting Centre, Sept. 1942.
- ... Extension of Duration of Flash (.303" B. MK VII ...)*, ARD 384/43, 1943.
- Factors Affecting Quality in Night Photography with Pyrotechnic Flashes*, by W. Romer, RAE Tech. Note PII 333, 1945.
- Flame Weapons*, by A. W. Cox, ARDE Memo (MX) 3/61 DDC-AD 324 776.
- Flammability of Magnesium, Aluminum, and Magnesium Aluminum Alloy Dusts*, by A. L. Godbert, L. O. Would, Safety in Mines Research Establishment, R 113, 1955.
- Flash, Photograph, 8", No. 2, MK.1*, Armament Research and Development Establishment, X4/W/8/59, Feb. 1960, DDC-AD 314 837L.
- ... Flash Photographic 1.75 (The ...)*, by J. C. Cackett, R. F. Wilkinson, ARD 1/47, 1947.
- ... Formation of Coloured Smoke Clouds Part 1 Review of Suitable Organic Dyestuff, (The ...)*, by G. D. Heath, PR 2547, Apr. 1943.
- Functioning Heights for Photoflashes and Parachute Flares*, by A. N. Mosses, Ministry of Supply Technical Note ARM 605, June 1957, DDC-AD 157 389.
- Functioning of Zinc Dust/Chlorohydrocarbon Smoke Compositions. Some Factors Affecting the Rate of Burning of Smoke Compositions with Particular Reference to Sodium-Chromate*, by E. W. Lanfear, PR 2672, Mar. 1945.
- Fuze Bickford Type—Variation of PDE Rate of Burning with Pressure*, by Boncath, Nov. 1941.
- Fuze Powder—30 seconds*, RE8.
- Gasless Delay Compositions. The Use of Ferro-Titanium Alloy in Composition SR 80*, by J. C. Cackett, F. P. Watkins, ARD.10/51, 1951.
- German Bombs*, Air Intelligence, DDC-ATI 1276.
- German Investigations on the Meteorology of Chemical Warfare*, by J. H. Simpson, British Intelligence Objectives Sub-Committee, DDC-ATI 109 735.
- German Pyrotechnic Factories*, by M. P. Lisowski, British Intelligence Objectives Sub-Committee, DDC-ATI 64 424.
- Green and Orange Band Spectra of CaOH, CaOD and Calcium Oxide*, by A. G. Gaydon, Chem. Engineering Dept., Imperial College, London, May 1955.
- Grenades Filled WP*, by G. L. Watkinson, PR 2289, Oct. 1941; PR 2289A, Dec. 1941.
- ... Heat Conductivity of Mixtures (The ...)*, by Frohlich, Wills, SAC/PIF 100.
- ... Heating Up of Smoke Compositions (The ...)*, Statement by CD 3, RG 10.
- Heats of Reaction and Rates of Burning Solid Systems*, by Spice, Staveley.
- High Altitude Combustion of Pyrotechnics*, by A. J. Taylor, ARDE Memo (MX) 41/60, Aug. 1960, DDC-AD 319 248.
- ... Ignitability of Hexachloroethane and Composition SR 269M (The ...)*, by A. R. Boyle, F. J. Llewellyn, Report a(X)19 Birmingham, Feb. 1944.
- ... Ignition and Burning Properties of No. 15A Bickford Fuze at Low Pressures (The ...)*, by R. F. Wilkinson, RDER 544/44, Mar. 1944.
- Ignition on SR 371C Pyrotechnic Composition. The Effect of the Use of More Than One Fuze*, by E. G. Harrison, Rocket Propulsion Establishment Tech Memo 214, Nov. 1960, DDC-AD 324 988.
- ... Improvement of Phosphorus Shell (Interim Report on ...)*, by K. A. J. McClure, PR 357, July 1926.
- ... Influence of Humidity on the Optical Density of Certain Screening Smokes (The ...)*, by A. S. G. Hill, PR 1198, Feb. 1934.

GREAT BRITAIN (cont'd)

Influence of Particle Size of Zinc Dust on Rate of Burning of Smoke Compositions, by W. N. J. Bright, J. D. Morton, J. A. Prigg, PR 2577, Mar. 1944.

Infrared Decoys, ARDE Memo (MX)44/60, Aug. 1960, DDC-AD 319 250L.

.. *Intelligence on Enemy CW and Smoke (Summary of . .)*, by A. Y. Stephen, Porton, May 1943, DDC-ATI 42 236.
Same, Dec. 1942, DDC-ATI 42 235.

.. *Investigation of the Amount of Light Required for Air Night Photography from High Altitudes (An . .)*, by J. C. Cackett, R. F. Wilkinson, E. A. Talbot, ARD 23/48, 1948.

.. *Investigation of the Flash Produced by Aluminium Scattered by Means of Aluminized High Explosive (An . .)*, by J. C. Cackett, R. F. Wilkinson, RDER 1003/46, June 1946.

.. *Investigation into the Performance of HE and HE/I. Fillings for SAA, Part II. An Investigation of the Fragmentation of 20mm Oerlikon Shell Filled with Various HE and HE/Incendiary Compositions (An . .)*, by J. P. Leigh, ARE 9/54, May 1954, DDC-AD 34 336. Part I, ARE 31/53, DDC-AD 31 114. Same, Part VII, *Experimental Assessment of the Flash Produced from Various Classes of HE and HE/I Filled 20mm Oerlikon Shell Fired into Air, Oxygen and Nitrogen Atmospheres*, by A. J. Skinner, ARDE Memo P4/6/55, 1955, DDC-AD 100 511.

Investigations on Shell Tracers, by L. A. Wiseman, University of Bristol, RD 18, Apr. 1944.

Japanese Smoke Generators, by H. G. Mason, PDR 31, May 1939.

Kinetics of Barium Peroxide-Magnesium Compositions, Physical Chemistry Laboratory, Oxford, AC 8979, PIF 197.

Kinetics of Layer to Layer Burning in Gasless Compositions, by R. W. Hill, J. E. Spice, R. B. F. Temple, SAC/PIF 199, Apr. 1946. Same, PIF 127.

Kinetics of Layer to Layer Burning in Slow Burning Compositions, RM.18.

Land Service Smoke Shell. A Comparative Trial of Shell 4.5" How. MK.VI and MK.VII and MK.VIII Charged WP and Shell 4.5" How. BE MK. 1/L(DD/L/6095), by R. Kingan, PR 1630, Nov. 1936.

Lead Fuze Delay for SD Base Fuze, RE 7.

.. *Lethality of a Forward Fragment-Projecting Rocket (The . .)*, by L. B. C. Cunningham, W. R. Hynd, M. McKinney, Air Warfare Analysis, Sept. 1945, DDC-ATI 106 772.

.. *Light Output of Air Burst 4.5-inch, MARK IV, Photographic Flashes of Different Terminal Velocities*, by R. F. Wilkinson, J. C. Cackett, E. A. Talbot, ARE 24/48, Sept. 1948.

.. *Limiting Air Velocities for Flames Burning from Liquid Surfaces at Subatmospheric Pressures (The . .)*, by R. Hirst, D. Sutton, RAE Tech. Note EPD, Mar. 1954.

.. *Livens Drums Charged Phosphorus (Report on . .)*, by K. A. J. McClure, PR 471, July 1927.

Low Altitude Night Photography by Camera, by F. Spencer, RAE Tech. Memo Air PH 84, Feb. 1951.

Low Speed Wind Tunnel Model Tests of the Dropping of Fire Bombs from a Hunter, by T. B. Owen, RAE Tech. Note Aero 2291, Jan. 1954, DDC-AD 33 740.

.. *Machine for Safely Filling Photoflashes (A . .)*, by J. C. Cackett, RARDE, FXD/70/026.

Magnesium Powder Stability, Ministry of Supply, Advisory Council of Scientific Research and Technical Development, Mar. 1946, DDC-ATI 54 239.

.. *Measurement and Control of Particle Size in Pyrotechnic Ingredients (The . .)*, by A. M. Wild, RARDE Memo (X) 3/63, Jan. 1963, DDC-AD 334 978.

.. *Mechanism of the Burning of SR 399 (The . .)*, by Frohlich, Wills, Wiseman, SAC/PIF/06.

GREAT BRITAIN (cont'd)

- Meeting to Discuss the Deterioration of Smoke Stores Held at CDES Porton 22.6.43 (Report on Second...)*, AC 4443, PIF 25 II 2023/43, June 1943.
- Metallic Smoke Compositions. Preparation of Combustible Fibre Bonded Pastes Containing Zinc and Carbon Tetrachloride*, by B. A. Toms, K. E. V. Spencer, PR 258, Jan. 1944.
- Meteorology for Chemical Warfare and Smoke*, 1954, DDC-ATI 146 311, Air Ministry Meteorological Office.
- Mixing and Handling Coloured Smoke Compositions (The...)*, by D. R. Mackey, M. Leckie, Ministry of Supply, DDC-ATI 44 538.
- New Luminous Priming Compositions for Tracers*, by A. H. Warburton, RDER 610/44, June 1944.
- Night Photography: Development of a Suitable Photographic Flash*, by W. F. Coxon, ARD 8/41, March 1941.
- Night Photography Trials from 40,000 feet Using 600-lb. Conical Torpex Photo Flash*, by C. R. Thorne, F. Spencer, N. P. Court, P. White, RAE Tech. Note PII 423, Jan. 1950.
- Night Photography Trials from 40,000 feet Using 550-lb. Photoflash (Interim Report on...)*, by C. R. Thorne, RAE Tech. Memo PII 57, July 1949.
- Night Photography Trials, Woomera, Australia*, by C. R. Thorne, F. Spencer, P. White, N. P. Court, D. B. Minterne, RAE Tech. Note PII 442, 1950.
- Night Reconnaissance in 34 Wing, 2nd TAF/ORS*, 1945.
- Nobels Hexachloroethane Candles. Examination of Candles Returned after 5 years Storage in Iraq*, by H. G. Mason, PR 1238, May 1934.
- Nobels Hexachloroethane Smoke Candles. Report on Climatic and Storage Trials*, by H. G. Mason, PR 1391, July 1935.
- Non-Toxic Non-Irritant Smoke Generators*, by G. D. Heath, PTP 309, Oct. 1952.
- Observation on the Burning of Binary Pyrotechnic Composition Containing a Metal as Fuel*, by P. R. Rowland, Ministry of Supply, MOS 163, July 1947. Also, SAC/PIF 197.
- Obscuration Produced by Smoke Curtains (The...)*, by A. C. Merrington, E. G. Richardson, ARM 174, Mar. 1943.
- Oil Smoke Production (Interim Report on...)*, PR 36, Oct. 1922.
- On the Behavior of Radiation Inside the Luminous Cloud Formed by Photographic Flash Bombs: Some Experiments on the Obscuration of One Flash by Another*, by J. C. Cackett, E. F. Caldin, RDER 427/45, Nov. 1945.
- Optical Density of Smoke Produced from No. 5, MK.1 and Nobel (1929) Generators in Relation to Concentration and Particle Size (Report on...)*, by J. A. Bannerman, H. L. Green, PR 1638, Nov. 1936.
- Particle Size Distribution of Dyestuff Used for Smoke Cloud*, by G. D. Heath, PTP 23, Sept. 1947.
- Particle Size Distribution of Dyestuff Used for Smoke Cloud. A Method Based On the Rate of Sedimentation*, by J. T. Stock, G. D. Heath, PTP 23, Sept. 1947.
- Phosphorous Fillings for Antipersonnel Incendiary Weapons*, by R. F. Phillips, DRER 609/44, June 1944.
- Phosphorus Smoke Candles by Messrs. Albright and Wilson, 18 and 19 August, 1926 (Report on...)*, by K. A. J. McClure, PR 373, Sept. 1926.
- Photo Cell Operated High Altitude Reconnaissance Night Camera (FX 89...)*, by F. Spencer, RAE Tech. Memo Air PII 58, 1949.
- Photoflash Trials Held at Shoeburyness (Report on...)*, Selc Physics Laboratory, Ilford Ltd., PRC 32/43, 1942.
- Photoflash Trials—Imber Range (8"...)*, by J. C. Treddle-Williams, ARM Tech. Memo 1671.

GREAT BRITAIN (cont'd)

.. *Photographic Flash Mark III (4.5-inch . .)*, Orfordness Research Station, ORS, REF. BT 84, Oct. 1944.

Photographic Flashes, 1920-1945, by J. C. Cackett. A monograph

.. *Photographic Flash Bomb (The . .)*, ARD 9/52, Sept. 1952.

.. *Photographic Flash Bomb. The Measurement of Light from Air-Burst Bombs (The 8-in. . .)*, by J. C. Cackett, F. P. Watkins, ARE 15/51, Nov. 1951.

.. *Photographic Flash Bomb. The Measurement of the Light from Airburst Bombs at Orfordness (The 8" . .)*, by J. C. Cackett, F. P. Watkins, ARD 9/52, 1952.

.. *Photographic Flash Bomb, Mark IV, Methods Improving the Efficiency of the Flash (The 4.5-inch . .)*, by J. C. Cackett, R. F. Wilkinson, ARD 12/48.

.. *Photographic Flash Bomb Photometric Trials Orfordness (The 500-lb. . .)*, by J. C. Cackett, E. A. Talbot, R. F. Wilkinson, ARD 22/49, 1950.

Photographic Flash Compositions, Selo Physics Laboratory, Illford, Ltd., A.90, Oct. 1941.

Photographic Flashes—Development, Ministry of Supply, BM/BWR/355, May 1948.

Photographic Flashes for High Altitude Photography at Night, Director, Armament Research and Development (Air), Programme Item 27, 1948.

Photography from the Air at Night: A History of its Development during the Period 1939-1945, Royal Aircraft Establishment, IAP PII 2, Monograph 2.5.13, DDC-ATI 113 263.

Photometric Data for Tracer Compositions, Preparation of SR 366 Tracer Composition, by A. H. Warburton, XC(4)3051/16/1, RD 14.

.. *Photometry and Light Distribution of Aircraft (The . .)*, by S. S. Beggs, J. S. Smyth, J. M. Waldram, GEC 8219, 1943.

.. *Photometry of Pyrotechnic Flames (The . .)*, by J. C. Cackett, ARDE Memo (MX) 69/60, Fort Halstead.

.. *Possibility of Igniting Tracers at the Muzzle (A Note on . .)*, by J. S. Dick, W. R. Maxwell, RDER 648/44, Sept. 1944.

Preparation of Dark Ignition Priming and Tracing Compositions for Small Arms Ammunition, DEF Engineering, REIT MNE/R11/47, Sept. 1943.

.. *Production of Black Smoke from Candles (Final Report on the . .)*, by E. W. Lanfear, PR 600, June 1928.

.. *Production of Coloured Smokes by Explosive Dispersion (The . .)*, by G. D. Heath, PTP 147, Jan. 1950.

.. *Production of Colored Smoke I. The Production of Coloured Smoke by the Vaporization of a Coloured Organic Compound (Report on the . .)*, by J. S. Anderson, E. A. Perren, PR 266, July 1925.

.. *Production of Coloured Smokes by the Use of Inorganic Compounds (The . .)*, by E. A. Perren, J. S. Anderson, PR 266A, Oct. 1925.

Production of Photographic Flashes from Metal Powders, by J. C. Cackett, WA-859-15, ARD 230/43, July 1943, DDC-AD 4423. Same, ARD 408/45, Mar. 1945, DDC-AD 8090. Same, WA-2080-13, ARD 522/44, Apr. 1944, DDC-AD 6162. Same, ARD 230/43, June 1943. Same, WA-4302-15, ARD 408/45, DDC-AD 8090.

.. *SR Pyrotechnic Composition Book (The . .)*, by J. C. Cackett, ARDE (MX) 16/59, DDC-AD 306 887.

.. *Pyrotechnic Delays (Paper on . .)*, TTCP Report FXD/70/026.

Pyrotechnic Explosives in Service, by J. C. Cackett, ARDE Memo (MX) 2/61, Feb. 1960, DDC-AD 323 639.

GREAT BRITAIN (cont'd)

- Pyrotechnic Reactions Involving Potassium Chlorate, Classification of Compounds According to their Ability to React with Potassium Chlorate*, by G. D. Heath, PTP 223, Feb. 1951.
- Pyrotechnic Reactions Involving Potassium Chlorate II. Some Observations on Ignition Temperature and Rate of Propagation of Reaction*, by G. D. Heath, PTP 444, Oct. 1954.
- .. *Rates of Burning and Luminosity of Pyrotechnic Illuminating and Signal Compositions (The...)*, by J. C. Cackett, ARDE Memo (MX) 3/62, Jan. 1962, DDC-AD 327 694.
- .. *Rates of Burning of Various Safety Fuzes at Reduced Pressures (The...)*, by J. L. Wilson, RDER 626/44, July 1944.
- .. *Reaction between Magnesium and Nitrate Solutions (The...)*, by C. J. Wilkins, E. F. Caldin, ARD Exp. Rept. 631/44, 1944.
- Research on Metallic Smoke Compositions. II Replacement of Carbon Tetrachloride by Tetrachloroethylene in Zinc-CC14 Smoke Compositions*, by G. S. Hartley, PR 2582, Jan. 1944.
- Results of High Altitude Night Photography Trials Using 650-lb. Cluster Flash*, by C. R. Thorne, F. Spencer, P. White, RAE Tech. Note PH 415, Aug. 1948.
- .. *Shell of 4.5" How Smoke, Base Ejection, DD/L/5436 Modified to DD/L/SK. 1219, after Rough Usage and Wet Climatic Tests (Report on...)*, by W. G. Abinett, E. W. Bateman, PR 1219, Apr. 1934.
- Shell Tracers*, by T. K. Brownson, RDER 316/43, Sept. 1943.
- Smoke Compositions Based on Phosphorus*, by A. N. Mosses, ARM 617, Mar. 1958.
- Smoke Efficiency Trials of Q.F. 17 Pdr./77mm BE Smoke Shell*, by A. E. Kent, D. H. Fimm, PTP 183, July 1950.
- .. *Smoke Producing Burst-Fumyl Substitutes (Report on...)*, by E. W. Bateman, H. G. Mason, PR 179, June 1924.
- Smoke Reduction for Incendiary Bombs I.*, by F. H. Garner, T. G. Hunter, A. E. Clarke, University of Birmingham, IB 1, Mar. 1943. Same, *II. The Tendency to Smoke of Organic Substances on Burning*, IB 2, June 1943.
- Smoke Shell for 60-Pdr Gun*, by L. C. Turnbull, PA 719, Jan. 1929.
- .. *Some Chlorinated Compounds for Use in Berger Type Smoke Mixtures (Preliminary Report on...)*, by E. A. Perren, H. G. Mason, PR 315, Jan. 1926.
- .. *Some Complex Coordination Compounds as Delays (Interim Report on...)*, by T. Urbanski, S. Minahan, RDER 208/45, Sept. 1945.
- Some Factors Controlling the Intensity of the Light from Mg-NaNO₃ Illuminating Compositions*, by E. F. Caldin, WA-3606, ARD 687/44, DDC-AD 7571.
- Some Factors Governing the Efficiency of Photographic Flashes*, by R. F. Wilkinson, E. A. Talbot, ARE 12/45, June 1949. Same, ARD 12/49, 1949.
- Some Observations on the Burning of Binary Pyrotechnic Compositions Containing a Metal as Fuel*, by C. K. Adams, P. R. Rowlands, L. A. Wiseman, SAC/PIF 166, 1944/1946.
- Some Spectroscopic Observations on Pyrotechnic Flames*, Physical Chemistry Laboratory, Department of Chemistry, Leeds University, Jan. 1949, DDC-TIP U44472.
- .. *Spectra of Some Flares Used in Pyrotechnics (The...)*, by J. Bayliss, RARDE Memo (MX) 21/62, July 1962, DDC-AD 331 647.
- Spectrographic Investigation of Combustion*, by M. P. Tahany, Oxford, June 1946; Thesis.
- Spectrophotometric Investigation of Metallic Combustion*, by W. H. Francis, Oxford, June, 1946; Thesis.
- Spectroscopic Studies of Combustion (Flares) (12 Reports)*, by Physics Laboratory, Oxford University, RB 36, June 1946.

GREAT BRITAIN (cont'd)

.. *Spontaneous Heating and Ignition of PN 276 (The...)*, CDG/1699/1A.

Spontaneous Heating and Ignition of Smoke Compositions Containing Hexachloroethane, Calcium Silicide, and Zinc Oxide, by E. F. Caldin, J. L. Wilson, C. J. Wilkins, RDER 187/42, July 1942.

Spontaneous Heating and Ignition of Smoke Compositions Containing Zinc Oxide, Zinc Dust and Hexachloroethane, by J. L. Wilson, RDER 281/43, Aug. 1943.

Spontaneous Heating of Smoke Compositions Containing Carbon Tetrachloride, Zinc Dust and Zinc Oxide, by J. L. Wilson, RDER 280/43, Aug. 1943.

Spontaneous Heating of Smoke Compositions of the Type: Calcium Silicide—Zinc Oxide—Hexachloroethane, by J. L. Wilson, E. F. Caldin, RDER 55/43, Feb. 1943.

Spontaneous Ignition of Composition PN 421. Investigation Resulting from Fire on 24.3.43, by R. O. F. Swynnerton, RL 51.

.. *Stability of Smoke Compositions (The...)*, by J. D. Morton, H. G. Vincent, PR 2480, Feb. 1943.

.. *Stability of Smoke Compositions (The...)*, by H. G. G. Vincent, E. W. Bateman, G. Combe, PR 2576, Jan. 1944.

.. *Stability of Smoke Compositions 2. Use of Sodium Chromate in HCE/Zinc Dust Compositions (The...)*, by E. W. Bateman, PR 2546, Sept. 1943.

.. *Static Photoflash Trials Held at Shoeburyness (Report on...)*, by G. B. Harrison, Selo Physics Laboratory, Illford, Ltd., PRC 32/43, Nov. 1943.

Stolzenburg Smoke Candles, by H. G. Mason, PR 1439, Nov. 1935.

.. *Study of the Characteristics of 100 MK and MK III and 100 MK II 4.5 Photographic Flashes (A...)*, by R. F. Wilkinson, RDER 428/45, Dec. 1945.

Study of the Experimental Data Available for Various Types of Photographic Flash, by R. F. Wilkinson, RDER 1001/46, Jan. 1946.

.. *Study of the Luminosity Produced When High Explosive is Detonated in an Atmosphere of Argon (A...)*, by J. C. Cackett, R. F. Wilkinson, ARD 43/47, 1947.

.. *Storage Trials of B.E. Shell Charged Zinc Smoke Mixture (Report on...)*, by O. G. Freeman, E. W. Bateman, PR1622, Oct. 1936.

.. *Study of the Temperature and Emissivity of the Luminous Cloud Produced by the Flash Photographic Aircraft (A...)*, by R. F. Wilkinson, J. C. Cackett, RDER 1004/46, Dec. 1946.

Submarine Disaster Position and Identity Devices, Armament Research and Development Establishment, X4/S2/60, Aug. 1960, DDC-AD 318 299L.

.. *Submarine Smoke Penetration Trial Carried Out on May 10, 1923 (Report on...)*, by A. E. Kent, PR 80, Aug. 1923.

Submarine Pyrotechnics, Armament Research and Development Establishment, X4/A/4/59, Feb. 1960, DDC-AD 314 832L.

.. *Substitute Berger Mixture (Interim Report on...)*, by E. A. Perren, H. G. Mason, PR 172, May 1924.

.. *(Tank) Mortar Smoke Shell, DD/L/911A Charged WP (Report on 3.7"...)*, by C. Ross, PR 223, Feb. 1925.

Tank Smoke Candles. Interim Report on Climatic Trials after 3 and 9 Months Storage, by H. G. Mason, PR 1206, Mar. 1934.

Tank Smoke Candles: C. 3128A. Reports on Trials after 5 years Climatic Storage, by H. G. Mason, PR 1843, Dec. 1937.

.. *Temperature of the Iron-Thermite Reaction (The...)*, by H. V. Wartenberg, G. Wehner, ARDE S4/55/4.

.. *Theory of Layer to Layer Burning in Gasless Pyro-Mixtures (The...)*, by F. Booth, ARD 25/45, 1945.

GREAT BRITAIN (cont'd)

Theory of Photoflashes, by E. F. Caldin, WA-4527-8, ARD 415/45, May 1945.

Theory of Photoflash Bombs: Behavior of Radiation Inside the Luminous Cloud (The...), STA/0402, 1945.

Theory of Photographic Flashes, by J. C. Cackett, Armament Research Department, June 1945.

Theory of Photographic Flashes, Armament Research Department, R3302-45, June 1945, DDC-TIP S206847.

Theory of Photographic Flashes: Part II, Report, by E. C. Caldin, RDER 415/54, Aug. 1945.

Theory of Photographic Flashes, Photographic Flashes for High Altitude Night Photography, Armament Research Establishment, 1948.

Theory of Primary Fire Raising with Small Incendiary Bombs (The...), by R. B. Fisher, J. Bronowski, Ministry of Home Security, Feb. 1944, DDC-ATI 113 986.

Time Fuze Powders, AC 3922, PIF 9.

Time Fuze Powder SR 227, SR 227A, SR 227B, SR 304—Draft Spec., RE 9.

Tracers. An Investigation into the Effect of Adding Talc to Composition SR 390, Used in .303" G.II, G.IV and G.VI Tracers (.303"...), RDER 154/42, June 1942.

Trial of 7.92mm BESA DI Tracer Ammunition, AVF School Lulworth, Dorset, Report 117/S/45 E.O. 27/7/153, Nov. 1945.

Trial of B.I. Bombs Charged Smoke and Cap Combined (Nobels) 20.7.25 (Report on...), by H. G. Mason, PR 271, July 1925.

Trial to Determine the Dependence of Screening Length on Rate of Fire with 4.5" How Shell Charge WP (Report on...), by R. Kingan, PR 687, Feb. 1929.

Trial with 18-Pdr Shell to Design R.L. 29004A charged WP Fitted with Long and Short Burst Container (Report on...), by K. A. J. McClure, PR 406, Dec. 1926.

Trial of 4.5" HOW Shell with the Following Chargings: Sulphur Trioxide, Oleum, Titanium Tetrachloride, White Phosphorus (WP) (Report on...), by K. A. J. McClure, PR 598, May 1928.

Trial with 18-Pdr Shrapnel Type Charged WP (Report on...), by K. A. J. McClure, PR 361, July 1926.

Trial of 18-Pdr (Shrapnel Type) Shell Charged WP and Spun Steel (Report on...), by K. A. J. McClure, PR 407, Dec. 1926.

Trial of Smoke Bursting for Chemical Shell (Report on...), by C. Ross, PR 237, Apr. 1925.

Trial of "S" Type Smoke Cases Charged, Messrs. Nobel's F Type Smoke Mixture 27.4.25, (Report on...), by P. Murphy, PR 249, May 1925.

Trial of 60 lb. Smoke Generator Charged Berger Substitute Mixture (Report on...), by H. G. Mason, PR 404, Dec. 1926.

Trial of WP Smoke Shell (4.5" How) 12.3.26 (Report on...), by C. Ross, PR 335, Mar. 1926.

Trial of a WP Smoke Shell 4.5" and 6" How (Report on...), by C. Ross, PR 336, Mar. 1926.

Trials of American E23 Floating Smoke Pot, by A. C. Brookes, A. W. Dewar, PTP, Nov. 1947.

Trials of Baby Smoke Bombs ex Messrs. Nobels (Report on...), by K. A. McClure, PR 333, Mar. 1926.

Trials of BI Bomb (Filled Smoke Composition) (Report on...), by C. Ross, PR 98, Nov. 1923.

Trials of Bombs M.L. Mortar 3" to Design RL 29972 A/1 Charged WP (Report on...), by R. Kingan, PR 800, Apr. 1930.

Trials of Bombs M.L. 4" Mortar Designs DD/L/853(1) and DD/L/868(1) Charged WP (Report on...), by K. A. J. McClure, PR 595, May 1928.

Trials Carried Out with Bombs, Smoke, HAF, ARM. No. 129 (Report on...), by K. A. J. McClure, PR 611, July 1928.

GREAT BRITAIN (cont'd)

- .. *Trials to Determine the Best Type of MK Smoke Generator (Report on ..)*, by H. G. Mason, PR 136, Mar. 1924.
- .. *Trials of Different Types of Explosives Used for Lead Filling in 4.5" How Shell Charged WP (Report on ..)*, by K. A. J. McClure, PR 405, Dec. 1926.
- .. *Trials of Three Nobels 20 Minute Smoke Candles and Three 60 lb. Smoke Generators (Report on ..)*, by K. A. J. McClure, PR 330, Mar. 1926.
- Trials of Photographic Flashes at Ashley Walk, Selo Physics Laboratory, Ilford, Ltd., PRC 9/41, Oct. 1941.*
- Trials of Photographic Flashes at Berners Heath, Selo Physics Laboratory, A.92, Oct. 1940. Same, A.93, Jan. 1941.*
- Trials of 4.5" Photographic Flashes at Jurby, Selo Physics Laboratory, Ilford, Ltd., A.91, Aug. 1940.*
- .. *Trials of 100-lb. RAF Large Unit Smoke Bomb with Parachute (Report on ..)*, by P. Murphy, PR 231, Mar. 1925.
- .. *Trials of Shell Q.F. 18-Pdr Charged WP DD/L/1887 (Report on ..)*, by K. A. J. McClure, PR 559, Feb. 1928.
- .. *Trials with 4.5" How Shell Charged (a) WP, (b) Various Alternative Chargings (Report on ..)*, by K. A. J. McClure, PR 493, July 1927.
- .. *Trials with 60-Pdr 56 lbs. Shell to Design DD/L/22 Charged WP (Report on ..)*, by K. A. J. McClure, PR 447, Mar. 1927.
- .. *Trials of Shell Q.F. 18-Pdr Shrapnel Type Charged Blue Powder (Report on ..)*, by K. A. J. McClure, PR 525, Oct. 1927.
- .. *Trials of 18-Pdr Shrapnel Type Smoke Shell with Various Chargings WP and RP (Report on ..)*, by K. A. J. McClure, PR 285, Nov. 1925.
- .. *Trials of Tin Containers Charged WP Carried Out on 18.6.25 and 21.8.25 (Report on ..)*, by K. A. J. McClure, PR 274, Oct. 1925.
- .. *Trials of Various Types of Experimental Smoke Candles (Report on ..)*, by K. A. J. McClure, PR 560, Feb. 1928.
- .. *Two Trials of Smoke Devices for Screening Back Areas (Report on ..)*, by K. A. J. McClure, PR 317, Jan. 1926.
- Use of Amino AZO Dyes for Production of Coloured Smokes by Explosive Means*, by G. D. Heath, W. E. B. Whatley, PTP 197, Sept. 1950.
- .. *Use of Flares at High Altitude (The ..)*, by J. C. Cackett, A. J. Taylor, BM/X4/457, 1957.
- .. *Use of Metal Alkyls in Incendiaries (The ..)*, Dec. 1942.
- Use of Zinc Oxide in Smoke Compositions*, Statement by CD3 15.1.43, RG 9, Jan. 1943.
- .. *Visit to ARDE Langhurst on 27 July 1959, to Discuss Vigilant Flare (Notes on ..)*, by S. A. Johnson, Vickers, Armstrong, Ltd., GW2/B/08/211, May 1960.
- Wartime Fire Research*, Ministry of Home Security, 1946, DDC-ATI 106 737.
- .. *Waxing of the Dyestuffs of the Composition SR 907 (The ..)*, by C. E. H. Bawn, Bristol Research Report 52, Sept. 1942.

HARRY DIAMOND LABORATORIES Washington, D. C.

- Basic Radiant Heat Transfer Test to Determine the Feasibility of Application to Thermal Delay Units*, by H. Martin, Sept. 1951.
- Burning Rate Tester*, by I. R. Marcus, TR 846, July 1960.
- Calibration of the Parr No. 1411 Heat Powder Calorimeter*, by I. R. Marcus, R-320-59-12, Dec. 1959.
- Calorimetry Standards*, by N. Kaplan, R-13-4-34.
- Delay Element T5E3, Engineering Test Data*, DOFL Memorandum.
- Delay Elements, T5 and T6 Test Data*, DOFL Memorandum.

HARRY DIAMOND LABORATORIES (cont'd)

Design Release Data—T6E4 Delay Element, by R. H. Comyn, Dec. 1956.

Determination of Gases in Barium Chromate for Use in Pyrotechnic Delay and Heat Mixtures, by M. Couch, TR 495, June 1957.

Development of T2E1 Pyrotechnic Delay Element. Part I. Zirconium-Barium Chromate Delay Compositions, by J. D. Yancey, Jr., R. H. Weinograd, TR 346, June 1956, DDC-AD 217 138.

Development of a Split Igniter for Initiating Gasless Delays, by I. R. Marcus, TR 875, Nov. 1960, DDC-AD 248 391.

DOFL Purchase Description of Three-Fiber Heat Paper, TL-PD-90, Oct. 1959.

Effect of Fibers on Heat Evolved by Heat Source Materials (The...), TR 845, June 1960, DDC-AD 317 690.

Engineering Test Data. T5E3 Delay Element, by N. L. Martin, R-320-61-16, Sept. 1961.

Factors Affecting the Blending of Gasless Mixtures, by R. E. McIntyre, TR 648, Feb. 1959.

Heat Powder Calorimetry (Summary of...), by R. H. Comyn, Ira R. Marcus, TR 862, Aug. 1960, DDC-AD 241 069.

Improved Methods of Blending Gasless Mixtures, by R. E. McIntyre, TR.

Investigation of Component and Process Variation for Tungsten Delay Compositions, by R. E. McIntyre, R-1320-61-20, Sept. 1961.

Investigation of the Effect on the Burning Characteristics of Tungsten Delay Compositions, by R. H. Comyn, R. E. McIntyre, Aug. 1953.

Investigation of the Effect of Delay Body Variables on the Burning Characteristics of Tungsten Delay Compositions, by R. H. Comyn, R. E. McIntyre, R-450-61-22, Dec. 1961.

Investigation of Environmental Effects on Tungsten Delay Compositions, by N. L. Martin, R-320-61-2, Jan. 1961.

Measurement of Heat Evolved by Thermite Mixtures. Part I. The Design and Calibration of a Calorimeter for Use as a Primary Standard, TR 488, Mar. 1957.

Measurement of Heat Evolved by Thermite Mixtures. Part II. Factors Affecting the Heat Evolved by Thermite Reactions During Calorimetric Measurements (The...), by J. P. Gibbons, TR 494, Mar. 1957, DDC-AD 141 215.

Measurement of Heat Evolved by Thermite Mixtures. Part III. Standard Calorimetry for Quality Control, by I. R. Marcus, TR 576 Jan. 1958.

Measurement of Heat Evolved by Thermite Mixtures. Part IV. A Laboratory Microcalorimeter for Evaluating Thermite Mixes from -65° to $+165^{\circ}F$, by I. R. Marcus, TR 844, June 1960, DDC-AD 317 689.

Measurement of Particle Size of Components of Gasless Mixtures, by R. H. Comyn, M. L. Couch, R. E. McIntyre, TR 636, Aug. 1958, DDC-AD 206 746.

Primer Study (M126...), by R. E. McIntyre, R-320-61-17, June 1961.

Procedure for Determination of Gas Evolved by Thermite Mixtures, by R. E. McIntyre, TR-702, Feb. 1960, DDC-AD 233 048.

Procedure for Determining the Gases Evolved by the Combustion of Pyrotechnic Mixtures, by J. L. Clark, TR 465, May 1955, DDC-AD 132 617.

Proposed Program for Developing and Investigating Heat Powders, by R. H. Comyn, Dec. 1954.

Pyrotechnic Delay Investigations for the AEC and the Sandia Corp. (Summary of...), by R. H. Comyn, R-450-61-21, Sept. 1961.

Pyrotechnic Research at DOFL. Part I. Heat Source Materials, by R. H. Comyn, TR 884, Nov. 1960, DDC-AD 321 045.

HARRY DIAMOND LABORATORIES
(cont'd)

Pyrotechnic Research at DOFL. Part II. Pyrotechnic Delays, by R. H. Comyn, TR 1015, Feb. 1962, DDC-AD 273 042.

Specification of Barium Chromate for Use in Gasless Mixtures, by R. M. Comyn, M. L. Couch, R. E. McIntyre, TR 635, Sept. 1958, DDC-AD 207 212.

Specification of Zirconium for Use in Gasless Mixtures, by R. E. McIntyre, M. L. Couch, TR 821, Mar. 1960, DDC-AD 34 317.

Stability of Manganese Delay Mixtures, by R. H. Comyn, M. L. Couch, R. E. McIntyre, TR-965, Sept. 1960.

Statistical Evaluation of Calorimetric Measurements on Heat-Source Materials, by S. G. Levin, R. E. McIntyre, TR 1028, Mar. 1963.

Use of Chemical Reactions in S&SA Devices (The...), by R. H. Comyn, TM 605, Feb. 1960.

Use of Gasless Mixtures for Producing Controlled Time Delays in Ordnance Devices (The...), by R. H. Comyn, R-22-57-6, Oct. 1957.

Use of the Parr Peroxide Bomb Calorimeter for Measuring the Heats Evolved by Thermite Reactions (The...), by Thomas E. Boberg, R-22-57-S, Nov. 1957.

HARVARD UNIVERSITY

Boston, Massachusetts

Brightness of the Sky in the Vicinity of the Sun (The...), by D. H. Menzel, H. K. Sen, SR19, Contract AF-19-604-4962, Proj. 7649, Task 76490, AFCL 63 240, Mar. 1963, DDC-AD 403 103.

Burning Tests, Nov. 10, 1942, (Report of...), NDRC, Nov. 1942, DDC-ATI 31 972.

Comparative Tests of Various Incendiary Mixtures, by L. F. Fieser, NDRC, Nov. 1941, DDC-ATI 31 890.
Same, Sept. 1941, DDC-ATI 31 902.

Comparative Tests of Various Incendiary Mixtures. Part III. Preliminary Observations on the Influence of the Rubber Concentration and on the Effect of Finely Powdered Nitrate, by L. F. Fieser, Oct. 1941, DDC-ATI 33 547.

Comparative Tests of Various Incendiary Mixtures. Part IV. Improvement in the Test Procedure Evaluation of Different Types of Rubber, by L. F. Fieser, Dec. 1941, DDC-ATI 31 788.

Final Progress Report, by R. M. Ferry, Aug. 1951, DDC-ATI 115 040.

Incendiaries from the Gibbs Lab (Memorandum on...), by L. F. Fieser, Feb. 1942, DDC-ATI 33 550.

Magnesium Bomb and Its Components (Informal Progress Report on the E-19 (formerly E-1) ...), by L. F. Fieser, E. B. Hershberg, NDRC, Oct. 1943, DDC-ATI 33 549.

Modified M-52 Two-Pound Magnesium Bomb for Use Against Japan, by E. B. Hershberg, NDRC, Jan. 1945, DDC-ATI 31 514.

Production of Incendiaries from Acetylene Polymers (DVA and SDO), by L. F. Fieser, NDRC, Nov. 1941, DDC-ATI 31 891.

Recommendation for the Filling and Firing of the 100-lb. Oil Incendiary Bomb (M-47 and M-47A1) (Report on...), by L. F. Fieser, NDRC, Apr. 1942, DDC-ATI 51 838.

Vest-Pocket Time-Delay Incendiary, by L. F. Fieser, Feb. 1943, DDC-ATI 31 772.

HERCULES POWDER COMPANY

Wilmington, Delaware

Development of a Filling Mixture for Smoke Pots, Grenades, and Floats (The...), by H. H. Champney, L. B. Counterman, R. Kamrath, Feb. 1944, DDC-ATI 32 761.

Spectrographic Measurement of Detonation Temperature, by J. G. Fox, NAVORD 200-45, June 1945.

HOLLOMAN AIR DEVELOPMENT CENTER

Holloman Air Force Base, New Mexico

See:

AIR FORCE MISSILE DEVELOPMENT CENTER.**ILLINOIS, UNIVERSITY OF**

Urbana, Illinois

.. *Deposition of Drops of a Nonvolatile Liquid on Vertical and Horizontal Surfaces (The...)*, by W. E. Winsche, H. F. Johnstone, Jan. 1944, DDC-ATI 32 739.

.. *Generation and Use of Concentrated Mustard Vapor Clouds (The...)*, by H. F. Johnstone, E. W. Comings, Dec. 1943, DDC-ATI 32 806.

Practical Consideration Involved in the Use of Screening Smokes, by W. M. Rodebush, Apr. 1943, DDC-ATI 34 006.

Progress Reports for November 1944, by H. F. Johnstone, Nov. 1944, DDC-ATI 32 666.

Progress Reports from NDRC Munitions Development Lab, by R. W. Parry, et al,
Jan. 1945, DDC-ATI 32 659.
Feb. 1945, DDC-ATI 32 658.
Mar. 1945, DDC-ATI 32 657.
Apr. 1945, DDC-ATI 32 656.
May 1945, DDC-ATI 32 655.
June 1945, DDC-ATI 32 654.

ILLINOIS INSTITUTE OF TECHNOLOGY RESEARCH INSTITUTE

Chicago, Illinois

Relationship Between Size and Shape of Dye Particles and the Color of Smoke, Final Report, Apr. 1954, DDC-AD 84 078.

Study of Materials, by P. K. Ase, S. Katz, ARF 3191-4, May 1961, DDC-AD 323 069.

Study of Parameters Affecting Fuze Explosive Train Performance, by J. Savitt, Apr. 1957, DDC-AD 141 150. Same, Aug. 1957, DDC-AD 141 105.

JET PROPULSION LABORATORY

Pasadena, California

.. *Characteristics of Gasless Igniters (The...)*, by D. Altman, PR-20-303, Aug. 1956, DDC-AD 112 717.

JOHNS HOPKINS UNIVERSITY

Baltimore, Maryland

Perchlorate Preparation: Bibliography and Translations of Japanese Articles, by H. J. Elliott, Jr., D. P. Herron, Aug. 1951, DDC-AD 106 229.

Pyrotechnics Decoys for Use as Infrared Countermeasures, by J. B. Newman, TRAF-17, Apr. 1955, DDC-AD 65 792.

.. *Survey of Research on Ignition of Solid Propellants (A...)*, by P. C. Maybmry, C. A. Orlick, R. Steinberger, June 1952, DDC-AD 52 879.

LAKE CITY ARSENAL

Independence, Missouri

Incendiary Mix Investigations T312E3 API, by D. L. Stonger, Proj. OAC 56-186 and OAC 56-33, IED R-58-19, Nov. 1958, DDC-AD 206 474.

LEHIGH UNIVERSITY INSTITUTE OF RESEARCH

Bethlehem, Pennsylvania

High Explosive and Incendiary Bombing Incidents, by H. S. Deck, M. O. Fuller, K. P. Laughlin, et al, Proj. TM2-9108, Sept. 1947, DDC-ATI 39 869.

ARTHUR D. LITTLE, INC.

Cambridge, Massachusetts

.. *Compilation of Flame and Shockwave Information Applicable to Photo Flashes (A...)*, Final Summary Report, Sept. 1955.

Evaluation of HEI Small Arms Shell, by W. R. Britsch, A. R. Almeida, PR 19, Contract DA 19-020-ORD-2986, Mar. 1955, DDC-AD 61 537.

AMCP 706-189

MALAKER LABORATORIES

Hightbridge, New Jersey

Determining a Method to Inhibit the Interaction of Alkali Perchlorate and Water, by C. J. Anderson, R. Del Grosso, R-6M 106-8, Feb. 1962, DDC-AD 282 763.

GLENN L. MARTIN COMPANY

Baltimore, Maryland

Analysis and Design of Replica Targets for Acceptance and Development of Incendiary Aircraft Ammunition, by A. Tokosch, R. S. Thornley, ER 4839, Jan. 1952, DDC-ATI 136 435.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Boston, Massachusetts

Flame Throwers, Incendiaries and Their Evaluation, by A. Byfield, W. A. Klemm, G. A. Agosten, Oct. 1945, DDC-ATI 31 904.

METAL AND THERMIT CORPORATION

Metal and Thermit Final Report on Tracer-Igniter Compositions, by J. E. Shoemaker, Sept. 1945.

Thermit--Its Uses in War and Industry, by J. H. Deppler, July 1942.

Tracer and Igniter Compositions, R-6581, DDC-ATI 29 708.

MICHIGAN, UNIVERSITY OF

Ann Arbor, Michigan

Mechanical Formation of Screening Smokes Using Salt Solutions (The...), by G. G. Brown, Oct. 1942, DDC-ATI 33 990.

Model Simulator Stories--Visibility of Military Targets as Related to Illuminant Position, by D. Gordon, G. Lee, Mar. 1959.

MIDWEST RESEARCH INSTITUTE

Kansas City, Missouri

Mass Spectrometer Study of Metal-Containing Flames, by T. A. Milne, R-7, Contract NONR 359900, ARPA Order 2362, June 1963, DDC-AD 412 812.

MILLER RESEARCH LABORATORIES

Design and Development of Photoflash Bombs T86E5 and T115, by C. A. Borchert, Proj. TA2-4026, RN-39-2, Feb. 1955, DDC-AD 58 492.

Design and Development of Photoflash Bombs, T86E5 and T115, Project TA2-4026, by D. H. Smith, RN 3908, Sept. 1955, DDC-AD 73 702.

MISCELLANEOUS DOCUMENTS

Chemical Compositions of German Pyrotechnic Colored Signal Lights (The...), by H. J. Eppig, Aug. 1945, DDC-ATI 62 485.

Chemical Warfare Research and Other Investigations in the Chemical and Physical Institute of the University and the Technische Hochschule of Vienna, by C. P. Smith, Sept. 1945, DDC-ATI 60 289.

Theoretical Interpretation of Flashes, Oct. 1945, AC 8642.

MONSANTO CHEMICAL COMPANY

Development of a Plastic Incendiary Bomb, by T. S. Carswell, H. K. Mason, T. S. Lawton, et al, Feb. 1946, DDC-ATI 31 768.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

Burning Times of Magnesium Ribbons in Various Atmospheres, by K. P. Coffin, TN 3332, Dec. 1954, DDC-AD 48 411.

Effect of Particle Size and Stabilizing Additives on the Combustion Properties of Magnesium Slurry, by A. M. Lord, V. E. Evans, NACA Memo E52K12, Jan. 1953.

Experimental Investigation of the Combustion Properties of a Hydrocarbon Fuel and Several Magnesium and Boron Slurries (An...), by A. M. Lord, NACA Memo E52B01, Apr. 1952.

Experimental Investigation of Physical and Combustion Properties of Several Residual Fuel Oils and Magnesium-Fuel-Oil Slurries in a Ram-Jet-Type Combustor, by P. N. Cook, Jr., V. E. Evans, E. A. Lezberg, NACA Memo E53D30, June 1953.

**NATIONAL ADVISORY
COMMITTEE FOR AERONAUTICS
(cont'd)**

General Method and Thermodynamic Tables for Computation of Equilibrium Composition and Temperature of Chemical Reactions, by N. Huff, S. Gordon, V. E. Morrell, NACA R-1037, 1951.

General System for Calculating Burning Rates of Particles and Drops and Comparison of Calculated Rates for Carbon, Boron, Magnesium, and Iso-Octane (A. . .), by K. P. Coffin, R. S. Brokaw, NACA TN-3929, Feb. 1957.

**NATIONAL BUREAU OF
STANDARDS**

Washington, D. C.

Color Standards for Field Evaluation of Pyrotechnic Smokes, by D. B. Judd, M. M. Balcom, NBS 2805, Sept. 1953, DDC-AD 221 475.

Colorimeter for Pyrotechnic Smokes (A. . .), by I. Nimeroff, S. W. Wilson, NBS 2704, Aug. 1953, DDC-AD 221 511.

Sedimentation Method for the Determination of the Particle Size of Finely Divided Materials, NBS Journal 12, Feb. 1934.

Selected Values of Chemical Thermodynamic Properties, by D. Rossini, D. Wagman, H. Evans, S. Levine, I. Jaffe, Circular 500, 1952.

Thermodynamic Properties of Boron and Its Compounds, R-6252, Dec. 1959.

Thermodynamic Properties of Lithium, Beryllium, Magnesium, Aluminum and Their Compounds with Oxygen, Hydrogen, Fluorine, and Chlorine (Preliminary Report on the . . .), R-6297, Jan. 1959.

Thermodynamic Properties of Some Boron Compounds, by W. H. Evans, D. D. Wagman, E. J. Prosen, R-4943, Aug. 1956.

Vapor Pressures of Some Boron Compounds (The . . .), by W. H. Evans, D. D. Wagman, E. J. Prosen, R-6663, Dec. 1957.

**NATIONAL FIREWORKS
ORDNANCE CORPORATION**

West Hanover, Massachusetts *See*: **NATIONAL NORTHERN CORPORATION**.

**NATIONAL NORTHERN
CORPORATION**

(Subsidiary of Atlantic Research Corporation)

Development of 30mm HEI Projectile, Reports:
38, Apr. 1956, DDC-AD 95 455
39-40, DDC-AD 102 006.
41, July 1956, DDC-111 207
42-43, DDC-AD 111 210.
44, Oct. 1956, DDC-AD 114 043.
45, Nov. 1956, DDC-AD 119 513.
46, Dec. 1956, DDC-AD 122 146.
1, Apr. 1957, DDC-AD 134 004.
6, Sep. 1957, DDC-AD 145 659.
7, Oct. 1957, DDC-AD 149 538.
8, Nov. 1957, DDC-AD 150 632.
9, Dec. 1957, DDC-AD 153 298.
11, Feb. 1958, DDC-AD 157 926.

Research and Development of Optimum High Explosive Incendiary Charge, Contract DA-19-020-ORD-2118. Reports:
P-901-R-5, Nov. 1952, DDC-AD 374.
P-901-R-6, Dec. 1952, DDC-AD 2454.
P-901-R-7, Jan. 1953, DDC-AD 10 162.
Final, Sept. 1953, DDC-AD 21 297.

Yearly Summary Report, 1953, by A. E. Mirarchi, A. T. Wilson, R-NFOC-S-3, 1953, DDC-AD 29 404.

NAVAL AMMUNITION DEPOT
Crane, Indiana *See*: **BUREAU OF NAVAL WEAPONS**.

**NAVAL AVIATION ORDNANCE
TEST STATION**
Chincoteague, Virginia *See*: **BUREAU OF NAVAL WEAPONS**.

**NAVAL MEDICAL RESEARCH
LABORATORY**
New London, Conn.

Field Study of Detectability of Colored Targets at Sea, R-265, May 1955.

AMCP 706-189

NAVAL MEDICAL RESEARCH LABORATORY (cont'd)

Identification of Signal Lights: I. Blue, Green, White, and Purple. II. Elimination of the Purple Category, by R. M. Halsey, R-310, May 1959.

NAVAL ORDNANCE LABORATORY Silver Spring, Maryland *See*: BUREAU OF NAVAL WEAPONS.

NAVAL ORDNANCE TEST STATION China Lake, California *See*: BUREAU OF NAVAL WEAPONS.

NAVAL PROPELLANT PLANT Indian Head, Maryland *See*: BUREAU OF NAVAL WEAPONS.

NAVAL PROVING GROUND Dahlgren, Virginia *See*: BUREAU OF NAVAL WEAPONS.

NAVAL RESEARCH LABORATORIES Washington, D. C.

Atmospheric Transmission in the Visible Region,
by J. Curcio, K. Durbin, Oct. 1959.

Chlorate-Candle Fabrication by Hot Pressing, by
P. R. Gustafson, S. H. Smith, Jr., R. R. Miller,
NRL 5732, Jan. 1962, DDC-AD 272 580.

*Further Studies on the Correlation of Backscatter-
ing with Atmospheric Transmission*, by J. Curcio,
G. Knestrick, T. Cosden, June 1958.

*Ground Based Observations of the Vertical At-
mospheric Haze Structure*, by G. L. Knestrick,
R-5130, May 1958.

*.. Preliminary Study on the Correlation of At-
mospheric Transmissions with Backscattering
(A . .)*, by J. Curcio, G. Knestrick, Aug. 1958.

*Survey of Theoretical Aspects of Luminescence of
Inorganic Crystal Solids*, 1950, DDC-ATI 96
735.

NAVAL SCHOOL OF AVIATION MEDICINE Pensacola, Florida

*Selection and Validation of Tests for Color Vision
—The Recognition of Pyrotechnic Signals by
Normal and Color Deficient Subjects*, by L. S.
Rowland, Nov. 1943, DDC-AD 135 597.

NAVAL UNDERWATER ORDNANCE STATION Newport, Rhode Island *See*: BUREAU OF NAVAL WEAPONS.

NAVAL WEAPONS LABORATORY Newport, Rhode Island *See*: BUREAU OF NAVAL WEAPONS.

The NETHERLANDS

Electronic Flashlamps of High Power, by M. La-
porte, 1955, Applied Scientific Research 5B,
1-4, The Hague.

NEW YORK UNIVERSITY

*.. Study of Techniques for the Measurement of
Detonation Spectra and Temperatures (A . .)*,
by J. H. Hett, J. B. Gilstein, Final Report,
Contract DA-30-069-ORD-945, May 1953.

NORTHROP AIRCRAFT COMPANY, INC.

*Flame Tests on Magnesium and Aluminum Alloy
Sheet Material*, by T. E. Piper, June 1940, DDC-
ATI 50 907.

OFFICE, CHIEF OF ORDNANCE Washington, D. C. *See*: ARMY MATERIEL COMMAND.

OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT Washington, D. C.

*Development of a Colored Smoke Target Identi-
fication Bomb (Bomb, Target Identification,
Smoke, MK 72, MOD. 2)*, OSRD 6432, Appen-
dix III, Dec. 1945.

Development of a Floating Colored Smoke Signal,
DS-4, OSRD 6375, Dec. 1945.

OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT (cont'd)

.. *Development of Plasticized White Phosphorus (PWP) (The . .)*, by M. M. Woyski, E. Ford, C. E. Shoemaker, et al., Jan. 1946, DDC-ATI 18 721.

Development of the Thermal Generator Candle, OSRD 3150, Nov. 1943.

Fire Warfare—Incendiaries and Flame Throwers, by E. B. Hershberg, C. S. Keevil, R. F. Messing, et al, Summary Report, 1946, DDC-ATI 54 565.

.. *Orange-Yellow Smoke Pots for Use with Parachutes (Final Report on . .)*, Division B, Serial 48, June 1941.

Rocket Projection of Incendiary Evaluation Bomb, by S. Shulman, Dec. 1945, DDC-ATI 18 355.

Testing of Daytime Distress Signals, OSRD 4539, Jan. 1945.

Tests for Determining Incendiary Value of Bombs and Bomb Fuels, by E. B. Gerry, Aug. 1944, DDC-ATI 18 041.

Visibility Studies and Some Applications in the Field of Camouflage, Div. 16, TR-2, 1946.

OHIO STATE UNIVERSITY

Study of Infrared Emission from Flames, by E. E. Bell, C. F. Dam, P. B. Burnside, RADC-TR-55-98, June 1955, DDC-AD 76 047.

Same, RADC-TR-56-63, Jan. 1956, DDC-AD 96 443.

Same, RADC-TR-57-51, Sept. 1956, DDC-AD 114 330.

OLIN INDUSTRIES, INC.

Development of a Spotter-Tracer Round for the Bat System, Sept. 1954, DDC-AD 46 298.

Research and Development Work on Spotting and Observing Bullet T-103 for Caliber .30 Weapons, by J. W. Silva, May 1953, DDC-AD 17 446.

OLIN MATHIESON CHEMICAL CORPORATION

Continuation of Design and Development Work on Bore-Safe Spotter-Tracer Round, NII-425, Oct. 1956, DDC-AD 143 935.

.. *Fuel Block Program (AN-M7 . .)*, R-O-2148U, Apr. 1961, DDC-AD 271 878.

Research and Development of Flammable Plastic for Colored Smoke Use:

Jan. 1955, DDC-AD 55 712.

Mar. 1955, DDC-AD 64 439.

May 1955, DDC-AD 66 113.

July 1955, DDC-AD 67 771.

Aug. 1955, DDC-AD 92 013.

May 1956, DDC-AD 95 057.

Oct. 1956, DDC-AD 137 748.

Reverse Electric Pyroswitch, NH-792, Oct. 1957, DDC-AD 150 750.

ORDNANCE BOARD

Washington, D. C. See: **ARMY MATERIEL COMMAND.**

ORDNANCE MISSILE LABORATORIES

See: **ARMY TEST AND EVALUATION COMMAND.**

PENNSYLVANIA STATE COLLEGE

.. *Literature Survey of Combustion Flames (A . .)*, by C. L. Woodbridge, G. K. Strother, H. D. Rix, AFRCR-TR-57-180, Apr. 1957, DDC-AD 117 102.

PHILLIPS PETROLEUM COMPANY

Bartelsville, Oklahoma

.. *Production of Colored Smoke (The . .)*, by A. M. Alcorn, A. C. Major, ACC ETF 913-3, Apr. 1943.

PICATINNY ARSENAL

Dover, New Jersey

.. *Action of an Explosive on Surrounding Non-Reacting Metal Dust (The . .)*, by J. Herskowitz, Dec. 1957, DDC-AD 150 486.

PICATINNY ARSENAL (cont'd)

- Aerial and Static Flash Characteristics of Photoflash and Metal Dust Bombs and Cartridges*, by C. Pinkley, D. Davidson, TR2070, Nov. 1954, DDC-AD 46 817.
- .. Aircraft Parachute Flares (M138 and M139 (T10 Series) ..)*, by J. H. Allison, F. Shelton, Oct. 1959.
- Ammunition—Powder and Explosives, The Ordnance School Course II. Vols. I, II, III, IV, 1938*, DDC-ATI-39 535.
- .. Analysis of Electronic Timing Circuits (The ..)*, by P. Zirkind, July 1961.
- Analysis of Stresses in a Parachute*, by H. N. Cohen, G. F. Kottler, Oct. 1954, DDC-AD 44 370.
- .. Anticipatory Effect, A Study of the Burning Mechanism of Delay Relay Columns (The ..)*, by M. Gilford, B. Werbel, G. Weingarten, L. Key, TR 3047, Mar. 1964.
- Antiaircraft Free Rocket Weapon LOKI—Development of Flash and Smoke Head—Report No. 1, Project No. TU2-1012B*, by M. Klein, G. Kottler, TR1884, June 1952, DDC-ATI 166 782.
- Apparatus for Observing Physical Changes at Elevated Temperatures*, by V. D. Hogan, S. Gordon, 1960.
- .. Application of the Absolute Rate Theory to the Ignition of Propagatively Reacting Systems. The Thermal Ignition of the Systems Lithium Nitrate-Magnesium, Sodium Nitrate-Magnesium (The ..)*, by E. S. Freeman, S. Gordon, 1956.
- Applications of Derivative Techniques to Thermogravimetry and Differential Thermal Analysis*, by C. Campbell, S. Gordon, C. L. Smith, Oct. 1959.
- Application of an Improved Igniter Composition in Electric Initiating Elements*, by B. A. Rousch, TR2120, Jan. 1955, DDC-AD 57 467.
- Applications of Photoelectric Transducers*, by J. A. Birriel, C. L. Smith, G. H. Wetter, TR-2126, Jan. 1955, DDC-AD 55 064.
- .. Atomic-Explosion Simulator (XM-142E1 ..)*, by J. P. Salamon, R238, Mar. 1960.
- Automatic and Recording Balances*, by S. Gordon, C. Campbell, 1960.
- .. Barrier Layer Photometer for the Testing of Flash Munitions (A ..)*, by C. L. Smith, TR2277, Jan. 1956, DDC-AD 83 080.
- Basic Research on Mechanisms of Reaction and Characteristics of Metal Dust Flashes*, by I. M. Baumel, S. Haffner, TR2076, Mar. 1955, DDC-AD 57 557.
- Bibliography of Methods of Measuring the Temperature of Pyrotechnic Flames*, by J. F. Tyroler, TR2165, July 1955, DDC-AD 68 346.
- Bibliography of Picatinny Arsenal Technical Reports No. 2237-2600, Bibliography No. 7*, June 1959, DDC-AD 309 467.
- Binders for Pyrotechnic Compositions*, by M. N. Nieradka, B. Werbel, PL-C-TN 13, Feb. 1958, DDC-AD 144 766.
- Black Powder for Artillery Primers*, by P. D. Tweed, TR1711, Dec. 1948.
- Bomb, Photoflash, T9 Series, Development of Improved Photoflash Composition*, by H. J. Eppig, D. Hart, TR1758, Jan. 1950, DDC-ATI 205 794.
- Bomb Photoflash T-9 Series, Static and Aerial Flash Characteristics of T9E8, 500-lb. and 1000-lb. Photoflash Bombs Loaded with Type III, Class A Photoflash Powder*, by H. J. Eppig, S. Resnick, TR1794, Nov. 1950, DDC-TIP C60095.
- Bomb, Photoflash, T9 Series, a Study of the Light Emission Characteristics of Safe, Dust Type Photoflash Bombs*, by H. J. Eppig, D. Hart, TR1757, Feb. 1950, DDC-ATI 206 750.
- Burning Characteristics of Binary Mixtures*, by D. Hart, H. J. Eppig, TR-1669, Oct. 1947, DDC-ATI 66 289.

PICATINNY ARSENAL (cont'd)

Burning Characteristics of High Altitude Tracer Systems, by A. Taschler, B. Jackson, S. M. Kaye, May 1961.

Burning Characteristics of Improved Green Pyrotechnic Compositions, by I. M. Baumel, B. Jackson, TR2318, Aug. 1956, DDC-AD 105 613.

Burning of Flare Composition in a Pressure Vessel, by E. Bertrand, Nov. 1956.

Caking of Photoflash Powder, by H. J. Eppig, O. E. Sheffield, TR1346, Sept. 1943, DDC-TIP X4428. DDC-TIP U70841.

Calibration of the Picatinny Arsenal Particle Sizer, by A. F. Taschler, G. Weingarten, PL-C-TN-26, May 1958, DDC-AD 220 585.

Cartridge, HE, Colored Marker, 105MM, M1 (For 105MM Howitzers, M2A1, M2A2, M4 and M4A1), by T. Advokat, TN116, Jan. 1956, DDC-AD 82 675.

Cartridge, HE, Colored Marker, T50E2, w/Charge, Supplementary, T80, w/o Fuze for 75mm Gun, T83E1, TN-74, Nov. 1953, DDC-AD 1223.

Cartridge, Propaganda, 105mm, T107E2 (for 105mm Howitzers, M2A1, M2A2, M4 and M4A1), by T. Advokat, Oct. 1956.

Cartridge, Smoke, WP, T140E2, w/Fuze PD, M48A3, .05 Second Delay, for 76mm Gun, T91, by L. G. Volkheimer, PA Notes 101, Dec. 1954, DDC-AD 73 734.

CF Illuminating Shell, by B. E. Quass, Aug. 1957.

Characteristics of Explosive Substances for Application in Ammunition, by A. M. Anzalone, J. E. Abel, A. C. Forsyth, TR2179, May 1955.

Characteristics of M204 Hand Grenade Fuzes Loaded with Nickel-Zirconium Type Delay Powder, by D. J. Zauder, M. C. Epton, TR2178, May 1955, DDC-AD 63 555.

Characteristics of Various Methods of Collecting Data in Tests of Increased Severity, by A. Bulfinch, FRL-TR-2627, Aug. 1959, DDC-AD 225 218.

Characterization of Saturated Polyesters by Differential Thermal Analysis, by E. S. Freeman, D. Anderson, M-38, Oct. 1959.

Chemical Compositions of German Pyrotechnic Colored Signal Lights (The...), by H. J. Eppig, Combined Intelligence Objectives Sub-Committee, Aug. 1945, DDC-ATI 62 485.

Chlorosulphoric Acid Smoke Trials Carried Out June 11, 1924 (Report on...), by P. Hordern, PR166, July 1928.

Clover Photoflash Cartridge and Launcher Assembly (An Outer Space Optical Tracking Aid), by B. E. Quass, P. A. Larsen, H. W. Keys, ND, Aug. 1959.

Coating Agents for Magnesium-Aluminum Alloy, by D. Hart, TR1473, Nov. 1944, DDC-TIP U70932; TR1523, May 1945, DDC-TIP U70977.

Coating Agents for Magnesium and Magnesium-Aluminum Alloy, TR1403, Mar. 1944.

Colored Marker Shell M107 (155mm...), by T. Advokat, TN140, Sept. 1956, DDC-AD 108 297.

Colored Marker Shell for M29 and T72 Mortars (81mm M362 HE...), by T. Advokat, TR 2664, Jan. 1960.

Combustion of a Granular Mixture of Potassium Perchlorate and Aluminum Considered as Either a Deflagration or a Detonation (The...), by J. Hershkowitz, TR3063, Jan. 1963.

Compilation of Data on Characteristics of Illuminant and Signal Compositions (A...), by D. Hart, TR1571, Oct. 1945, DDC-X5668.

Compilation of Data on the Compatibility of Explosives and Polymers, by O. R. Abolafia, TR-1838, Oct. 1951.

Compilation of Data on the Compositions of Foreign Igniters and Tracers, by D. Hart, TR1335, Sept. 1943, DDC-TIP U71244.

Compilation of Data on the Composition of Foreign Primers and Detonators, by W. R. Tomlinson, TR1316, July 1943, DDC-TIP U222993.

PICATINNY ARSENAL (cont'd)

Compilation and Evaluation of the Ignition Temperature Parameters and Differential Thermal Analysis for Pyrotechnic Systems: I. Barium Chromate-Boron, by S. Gordon, E. D. Crane, June 1958.

Comparative Test of Spotting Charges M1A1, by R. M. Schwartz, TR1114, Sept. 1941.

Comparison Study of Apparent and Tapped Densities of Atomized Magnesium-Aluminum and Aluminum-Magnesium Alloy Metal Powders (A...), by J. Kristal, Feb. 1963; Apr. 1963.

Conceptual Study of Advanced Tester Module, by R. M. Grogan, May 1963.

Construction of a Flare Radiometer, by M. Nowak, TN-32, June 1959.

Cover Photoflash Cartridge and Launcher Assembly (An Outer Space Optical Tracking Aid), by B. E. Quass, P. A. Larsen, H. W. Keyes, Aug. 1950.

Daisy Photoflash Cartridge, by J. W. Leach, Oct. 1961.

Daisy Photoflash Cartridge (A Space Signal) by B. E. Quass, Oct. 1957.

Delay Compositions, by D. Hart, R&D Lecture #27, PA-30, Feb. 1956.

Delay Tail Fuze for Use in Demolition Bombs (0.1-second...), by J. M. King, TR468, Jan. 1934, DDC-TIP U70033.

Derivation for Computing Optimum Heights of Release and Burst of Photoflash Bombs and Cartridges to Obtain the Maximum Picture Area, by H. N. Cohen, G. F. Kottler, J. F. Class, TR-2083, Oct. 1954, DDC-AD 44 427.

Design and Development of T2027 2-inch Rocket Flash Head, by T. Fruchtman, TR2256, Nov. 1955, DA Proj. 517-04-004Z, Ord. Proj. TU2-1032B, DDC-AD 80 274.

Design and Development of T2030 2-inch Rocket Flash Head, by T. Fruchtman, TR2255, Dec. 1955, DDC-AD 82 098.

Design of an Electronic Long Delay Timer, by M. Lazarus, TR3031, Jan. 1963.

Design Formula for Inflated Parachute Area Based on Average Total Weight, by H. N. Cohen, G. F. Kottler, TR-2082, Oct. 1954, DDC-AD 44 367.

Design Formula for Inflated Parachute Area Based on True Composition Weight, by H. N. Cohen, G. F. Kottler, TR-2080, Oct. 1954, DDC-AD 44 368.

Design Sketch Proposal for SRP Colored Marker Shell, by B. E. Quass, Aug. 1957.

Design Sketch Proposal for RRC Flare Shell, B. E. Quass, M. Lazarus, Aug. 1957.

Design Sketch Proposal for FB Grenade (Flash Blinding), by G. Weingarten, Aug. 1957.

Design Sketch Proposal for FF Machine Gun Bullet, by B. E. Quass, H. N. Cohen, Aug. 1957.

Design Sketch Proposal for IR Smoke Signal, by S. Resnick, Aug., 1957.

Destruct Type Flash-Smoke Warhead for the 318mm Free Rocket (Little John), by J. E. Andrews, Jr., Jan. 1961.

Determine the Satisfactoriness of the R-23A Composition in the M-11 Aircraft Signal, by G. J. Schladt, TR-977, June 1939.

Determination of Average Surface Diameter and Tapped Density of Powdered Pyrotechnic Ingredients, by B. Dubrow, M. Nieradka, TR2092, Nov. 1954, DDC-AD 47 231.

Determination of Best Spotting Composition for Observation of Honest John, by J. E. Andrews, Jr., L. J. Frey, Jr., RFL-TR17, Nov. 1960, DDC-AD 247 568.

Determination of Efficiency of Various Photoflash Compositions in the Plastic "Daisy" Photoflash Cartridge, When Fired at a Simulated Altitude of 80,000 feet, by T. Advokat, Dec. 1957.

Determination of the ICI Chromaticity Coordinates and Luminous Intensities of Pyrotechnic Flames (The...), by H. J. Eppig, D. Hart, TR1770, May 1950.

PICATINNY ARSENAL (cont'd)

Determination of KNO_3 in MB Increment Propellant Powder by Flame Spectrophotometry, by J. W. Lavitt, C. B. Finkel, 1952, DDC-ATI 171 168.

Determination of the Minimum Allowable Color Value of Standard Pyrotechnic Compositions, by H. J. Eppig, O. E. Sheffield, TR1385, Feb. 1944, DDC-TIP X10535.

Determination of Sensitivity to Impact of Pyrotechnic Flash Compositions Using Modified Picatinny Arsenal Impact Test, by J. Harris, D. J. Edelman, S. M. Kaye, FRL-TN-20, June 1961, DDC-AD 258 725.

Determine the Satisfactoriness of the R-23A Composition in the M-11 Aircraft Signal, by W. H. Rinkenbach, TR977, June 1939, DDC-X4284.

Determine the Satisfactoriness of the W4 White, the BG3 Green, and the A2 Amber Light Compositions in the Standard Cluster Type Ground Signal, by W. H. Rinkenbach, G. J. Schladt, TR1060, Dec. 1940, DDC-X5523.

Develop Apparatus to Measure Burning Times of Delay Pellets, by G. J. Mueller, W. H. Rinkenbach, TR980, June 1939, DDC-X4287.

Develop and Case Load Pyrotechnics Compositions for NORD-02134, by D. Hart, TR1630, Sept. 1946, DDC-AD 64 882.

Develop T21 PD Fuze, by V. R. Reed, TR873, Feb. 1938, DDC-TIP U70724.

Develop, Manufacture and Test Flashlight Bombs, Problem 530.0-65/11, TR 803, Mar. 1937, DDC-TIP U70656.

Develop Modification of 45-second Combination Fuze, M37, for 105mm Illuminating Projectile R6, by J. A. Taylor, TR603, Apr. 1935, DDC-TIP U70461.

Develop a Modified Black Powder for the T-14 Fuze, by S. Livingston, TR844, June 1937, DDC-TIP U70696. Same by G. C. Hale, TR872, Feb. 1938.

Develop Non-Slagging Fuze Powder for the T-14 Fuze, by S. Livingston, TR843, June 1937, DDC-TIP U70695.

Develop Parachute Type Yellow Smoke Ground Troop Signals, Service Test of Signal, Ground, Yellow Smoke, T-1, by H. S. Eroo, TR 647, Sept. 1935, DDC-TIP U70523.

Develop Propellant Igniter for 120mm Gun M1, by E. J. Murray, TR1602, June 1946, DDC-TIP U71008.

Develop Pyrotechnic Composition to Give Blue Light, by W. H. Rinkenbach, G. J. Schladt, TR357, Apr. 1933, DDC-X3902, DDC-TIP U70119.

Develop Red Star Parachute Ground Troop Signals, by J. M. King, TR228, June 1932, DDC-TIP U69952.

Develop Smoke Distress Signal T-1, by W. H. Rinkenbach, G. J. Schladt, TR992, Aug. 1939, DDC-X4298.

Develop a Smoke Signal for Training in High Burst Ranging, by C. Kaffke, TR363, May 1933, DDC-TIP U70125.

Develop Substitute for Shellac in Pyrotechnic Compositions, by W. H. Rinkenbach, G. J. Schladt, TR320, Jan. 1933, DDC-X3875, DDC-TIP U70084; Same, TR490, Apr. 1934, DDC-TIP U70055; Same, TR634, June 1935, DDC-X4059, DDC-TIP U70491.

Develop a White Light Composition for Illuminating Projectile for 60mm Mortar, by A. Strasser, TR1160, Mar. 1942, DDC-TIP U69825.

Development of Activator, Practice, T2E2, Project TA3-5920eb, by A. Graff, B. Werbel, Aug. 1957.

Development of a T-15 Airport Flare Composition, by H. J. Eppig, TR1512, Mar. 1945, DDC-X4610.

Development of Alternative Parachute for Ground Signals, by J. H. Robinson, TR1299, June 1943, DDC-TIP U69880.

Development of Amber Light Composition for Use in M-21 Parachute Type Signal, by W. H. Rinkenbach, C. G. Dunkle, TR1143, Jan. 1942.

PICATINNY ARSENAL (cont'd)

Development of T8 Booster, by V. R. Reed, TR881, Mar. 1938, DDC-TIP U70732.

Development of a Chemical Shell for the 105mm Howitzer, M2, by G. M. Taliaferro, TR587, DDC-TIP U70447.

Development of Composition Containing No Magnesium for Use in the M-24 and M-26 Flares, by W. H. Rinkeubach, C. G. Dunkle, TR1092, June 1941, DDC-X5551, DDC-TIP U69768.

Development of Composition Employing Grade C Magnesium for the M50 Tow Target Flare, by L. H. Eriksen, TR1298, June 1943, DDC-X4387.

Development of Compositions and Materials for Simulator Gunflash, No. 3, MK 1, by D. Hart, TR1520, 26 Apr. 1945.

Development of Composition for White Smoke Puff Ground Troop Signals, by W. H. Rinkeubach, G. J. Schladt, TR333, Feb. 1933, DDC-X5885, DDC-TIP U70100.

Development of a Counter Type, Integrating Photometer for Evaluation of Flash-Type Ammunition, by C. L. Smith, R. E. Anderson, G. H. Wetter, J. A. Birriel, TR2041, Aug. 1954, DDC-AD 43 301.

Development of a Coupling Circuit for Photoflash Testing, by C. L. Smith, C. W. Pinkley, R. E. Anderson, TR2050, Aug. 1954, DDC-AD 39 351.

Development of "Daisy" Photoflash Cartridge (Report on...), by S. A. Richer, T. Advokat, June 1956.

Development of the Daisy Photoflash Cartridge for Tracking the Atlas Missile, by J. Hershowitz, PR2 and PR3.

Development of the 50-millisecond Delay T65 Electric Detonator, by D. E. Seeger, R. E. Trezond, TR2594, Apr. 1959, DDC-AD 303 722.

Development of Delay Powder for Delay Primer Detonator for MK-XII Nose Bomb Fuze, by S. Livingston, TR-45, Feb. 1929, DDC-TIP U69924, TR87, Apr. 1930, DDC-TIP U70176.

Development of Delay Powders, by B. Werbel, S. Lopatin, TR2477, Apr. 1958, DA Proj. 5A04-01-027, Ord. Proj. TS5-5407, DDC-AD 159 055.

Development of Delay Powders, by B. Werbel, TR2249, Sept. 1955, DDC-AD 73 720.

Development of MK, IIC 5-second Delay Primer-Detonator, by F. Schultze, TR1000, Sept. 1939, DDC-TIP U69680.

Development of a Thirty-second Delay Switch, by M. Gilford, B. Werbel, FRL-TN-12, Oct. 1960, DDC-AD 245 463.

Development and Evaluation of Shell, 105mm, HE, M1 and WP, M60 for Use in the M68 Tank Gun, by L. R. Nealley, Mar. 1962, DPS-464; PA Report Nos. TE-258 and TE-274, DDC-AD 276 423L.

Development of Explosives—Metalized Explosives, by O. E. Sheffield, J. E. Abel, H. E. LaBeur, Sept. 1953.

Development of M8A1 Flare and Manufacture of 200 Flares for Service Tests, by H. S. Eroo, TR885, Mar. 1938, DDC-TIP U70735.

Development of a Flare for Project "Pop-Up," by A. Taschler, TN-37, Jan. 1960.

Development of T18 PD Fuze, by V. R. Reed, TR879, Mar. 1938, DDC-TIP U70730.

Development of T24 PD Fuze, by V. R. Reed, TR880, Mar. 1938, DDC-TIP U70731.

Development of a Fuze Powder for the M54 Time Fuze, by J. D. Hopper, TR1111, Oct. 1941.

Development of Grenade, Rifle, Illuminating T45, by H. Dorfman, D. Crane, S. Willsey, TR1888, Aug. 1952, DDC-AD 2556.

Development of XM144 Hand Held Ground Signal Series, by S. Lopatin, June 1963, DDC-AD 409 969.

Development of 75mm T50E2 HE Colored Marker Shell, by M. J. Margolin, P. B. Tweed, F. M. Lonshein, TR2368, Sept. 1956, DA Proj. 5A04-03-010, Ord. Proj. TA1-1254, DDC-AD 108 296.

PICATINNY ARSENAL (cont'd)

- Development of a High Speed Brightness Pyrometer*, by J. F. Tyroler, TR2042, July 1954, DDC-AD 46 348.
- Development of an Igniting Charge for the M23A1, Colored Smoke Rifle Grenade*, by S. D. Stein, A. Leachinsky, TR2234, Oct. 1955, DDC-AD 75 811.
- Development of Igniter Compositions for High Altitude Ignition of Illuminants, Propellants, Etc.*, by C. Knapp, B. Werbel, G. Weingarten, Mar. 1958.
- Development of an Illuminant Composition for the T10E2 Aircraft Flare*, by H. J. Eppig, TR-1710, Jan. 1949.
- Development of Illuminant Composition for Battlefield Illumination Flare*, by Bessie Jackson, Jr., Seymour M. Kaye, Garry Weingarten, FRL-TM 1104, Dec. 1962, DDC-AD 290 562L.
- Development of the 115mm XM Illuminating Cartridge for the 115 XM70 Moritzer*, by L. J. Frey, Jr., Mar. 1960.
- Development of the 115mm XM Illuminating Head for 115mm XM70 Moritzer*, by L. J. Frey, Jr., Mar. 1960.
- Development of 115mm T72E2 Illuminating Shell with T275 E1 MT Fuze*, by W. M. Stirrat, Aug. 1961.
- Development of an Improved First Fire Composition for Green Aircraft Signals*, by H. J. Eppig, O. E. Sheffield, TR1366, Nov. 1943, DDC-X4446.
- Development of an Improved Ground Troop Signal*, by W. H. Rinkenbach, G. J. Schladt, TR795, Dec. 1936, DDC-X4151, DDC-TIP U70648.
- Development of an Improved Hangwire Assembly for the M8 Flare*, by H. S. Eroo, TR747, Sept. 1936, DDC-TIP U70604.
- Development of Improved Ignition Type Powders*, by S. Livingston, TN2267, July 56, DA Proj. 504-01-008, Ord. Proj. TA1-5012, DDC-AD 103 504.
- Development of Improved Illuminant for Guide Flare, T6E1*, by W. J. Nolan, TR1804, Mar. 1951, DDC-ATI-96 769.
- Development of Improved Illuminant for Guide Flare, T8E2*, by W. J. Nolan, TN1943, July 1953, DDC-AD 29 493.
- Development of Improved Illuminant for Illuminating Shell, 105mm, M314A1*, by W. J. Nolan, H. Dorfman, TR2027, May 1957, DDC-AD 34 132.
- Development of Improved Photoflash Composition*, by H. J. Eppig, D. Hart, TR1758, Jan. 1950, DDC-ATI 205 794.
- Development of an Improved Pyrotechnic White Light Composition*, by W. H. Rinkenbach, G. J. Schladt, TR321, Jan. 1933, DDC-X3876, DDC-TIP U70085.
- Development of an Improved Red Tracer Composition*, by G. J. Schladt, TR215, Apr. 1932, DDC-TIP U69939. Same by W. H. Rinkenbach, G. J. Schladt, TR470, Feb. 1934, DDC-X3965, DDC-TIP U70035. Same by M. B. Winokur, TR1194, Aug. 1942, DDC-TIP U71276. Same by H. J. Eppig, TR1361, Oct. 1943, DDC-X4441. Same by D. Hart, N. J. Eppig, TR1593, Mar. 1946, DDC-X5674.
- Development of an Improved Red Tracer Composition for 37mm Ammunition*, by W. H. Rinkenbach, G. J. Schladt, TR1078, Mar. 1941, DDC-TIP U69754. Same by A. Strasser, TR-1156, Feb. 1942.
- Development of an Improved Smoke Composition for Activator, Practice, M1*, by G. Weingarten, TR1799, Nov. 1950.
- Development of Improved Tracer Compositions*, by B. Jackson, PL-C-TN 20, May 1958.
- Development of an Improved White Light Composition*, by W. H. Rinkenbach, G. J. Schladt, TR641, July 1935, DDC-X4063, DDC-TIP U70498.
- Development of Instrumentation for Determining the Total Chromaticity and Chromaticity as Time of Pyrotechnic Items*, by G. H. Wetter, TR2161, Apr. 1955, DDC-AD 60 521.

PICATINNY ARSENAL (cont'd)

Development of a Lead-Chromate-Silicon Powder Burning in 30-35 seconds in the 21-second 1907M Time Fuze, by O. E. Burton, TR185 (First Progress Report), Feb. 1932, DDC-X3800.

Development of Loading Technique for 20mm HE Incendiary Shell, by D. E. Sanford, TR1189, Aug. 1942, DDC-TIP U71277.

Development and Manufacture of Fifteen Signals for Observing Flight of Bombs, by J. M. King, TR713, Apr. 1936.

Development of a Method for the Calibration of Secondary Standard Lamps, by C. I. Davidson, TR-2283, June 1956, DDC-AD 98 201.

Development of a Method for Measuring the Range of Visibility of Pyrotechnic Signals, by V. C. Allison, G. J. Schladt, TR921, July 1930.

Development of a Method of Preventing Ignition Failures of M8A1 Parachute Flares Manufactured on ORD 7277, by H. S. Eroo, TR924, Sept. 1958.

Development of Missile Spotting Devices, by R. B. Wright, L. J. Frey, Jr., Apr. 1958.

Development of a "Molded Squib Assembly" for the Clover Photoflash Cartridge (The...), by P. A. Larsen, Feb. 1958.

Development of a New Ignition Temperature Apparatus, by J. E. Abel, S. Alster, A. C. Forsyth, H. Jackson, C. Patuky, TR2093, Nov. 1954, DDC-AD 46 818.

Development of T18 Nose Bomb Fuze, by F. Schultze, TR970, June 1939, DDC-TIP U70811.

Development of a Nuclear Timer for Satellite Application, by M. Lazarus, C. L. Smith, TR2564, Sept. 1958.

Development of a Photoflash Composition for the Rocket Flash, 2.75", T237, by C. Knapp, PL-C-TN 8, June 1957.

Development of Photoflash Systems for Low Altitude Night Aerial Photography, TN-21.

Development of a Portable Integrating Photometer for Photoflash Bomb Evaluation, by C. L. Smith, C. W. Pinkley, TR-1930, Mar. 1953.

Development of a Primer for Use with the T1027E1 Fuze, by P. Murphy, A. Graff, TR2588, Jan. 1959, DDC-AD 303 721.

Development of a Propellant-Ignition System for Rocket, HE, 2.75-inch T131, by M. E. Pollack, A. Irwin, TR2011, DDC-AD 33 180.

Development of a Pyrotechnic Composition for Amber Colored Signal, by W. H. Rinkenbach, G. J. Schladt, TR596, Feb. 1935, DDC-X4036, DDC-TIP U70454.

Development of Pyrotechnic Delay Trains for the T2049 and T2066 Rocket Fuzes, by R. A. Greenberg, TR2365, Oct. 1956, DDC-AD 109 124.

Development of a Pyrotechnic Delay for the Vigilante 37mm T324 HE Cartridge, by B. Werbel, W. M. Stirrat, TR2672, Apr. 1960.

Development of a Radio Transmitter for Obtaining Timing Pulse Signals from a Missile Undergoing Sled Tests, by J. C. Ruseus, May 1958.

Development of a Rapid Scanning Infrared Spectrometer, by W. Kizner, S. Haffner, TR1954, June 1954, DDC-AD 36 526.

Development of Rotating Machine for Testing 21-second and 45-second Fuzes, by C. J. Bain, TR469, Dec. 1933, DDC-TIP U70034.

Development of the Shaff Packages for 105mm and 155mm Base Ejection Shells, by J. E. Andrews, Jr., Apr. 1961.

Development of a Slow-Burning Powder for Loading in the 45-second Combination Fuze, by S. Livingston, Aug. 1930.

Development of Smoke Composition for the Fuze, Chemical, Mine, AT Practice, T20, by D. Hart, TR1571, Oct. 1945; TR1596, Apr. 1946.

Development of a Smoke Composition for the Low Altitude, Parachute Type Bomb, by G. J. Schladt, TR331, Feb. 1933, DDC-TIP U70094.

PICATINNY ARSENAL (cont'd)

Development of a Smoke Composition for the Low Altitude, Parachute Type, Practice Bomb, by G. J. Schladt, TR427, Oct. 1933, DDC-TIP U70001.

Development of Smoke Signal for Training in High Burst Ranging, by H. S. Eroo, TR899, July 1939, DDC-TIP U70748.

Development of a Smokeless Illuminant Composition for the T-24 Flare, by H. J. Eppig, TR1527, May 1945, DDC-X4611.

Development of Special Delay Trains for Project "Umbrella," by J. Allison, May 1957.

Development of Special Flares for Rockets, by D. Hart, TR1726, Apr. 1949, DDC-ATI-66 944.

Development of a Spotting Round for 81mm Mortar, by V. R. Reed, 27 Mar. 1941, DDC-TIP U69764.

Development of a Stable Mixture for Use as the Flash Charge of the Squib, Electric, M1A1, by C. F. Dieter, Jr., J. E. Abel, A. C. Forsyth, MR-37, July 1958.

Development of Static Test Charge Assembly for Simulated Davy Crockett Round, by G. Weingarten, J. Kristal, FRL-TN-39, Mar. 1960, DDC-AD 233 907.

Development of a Substitute for the Barium Chlorate Green Composition for Use in Pyrotechnics, by W. H. Rinkenbach, J. B. Nichols, TR613, Mar. 1935, DDC-X4047, DDC-TIP U70470.

Development of a Substitute for the Potassium Chlorate Red Compositions Used in Pyrotechnics, by W. H. Rinkenbach, G. J. Schladt, TR100, July 1931, DDC-X3751, DDC-TIP U70189. Same by W. H. Rinkenbach, G. J. Schladt, TR177, Feb. 1932, DDC-TIP U70263. Same by W. H. Rinkenbach, J. B. Nichols, TR604, Mar. 1935, DDC-X4040, DDC-TIP U70462. Same by W. H. Rinkenbach, C. G. Dunkle, TR896, Apr. 1938, DDC-X4231, DDC-TIP U70745.

Development of a Substitute for Potassium Perchlorate in Type III Photoflash Powder, by D. Hart, G. Weingarten, S. Sarner, TR2046, Aug. 1954, DDC-AD 46 991.

Development of T19 45-second Tail Bomb Fuze, by J. R. Hopkins, TR1036, May 1940, DDC-TIP U69713.

Development of a Time Fuze for the T3 Aircraft Parachute Flare, by M. L. Mathesen, TR564, Dec. 1934, DDC-TIP 70424.

Development of Tracer for the 37mm T324E22S Shell (Vigilante), by R. B. Wright, TN45, May 1960.

Development of Two Alternate Illuminant Compositions for the M49 Trip Flare, by L. H. Eriksen, TR1317, July 1943, DDC-TIP U71229.

Development of Universal High Altitude, High Temperature Resistant Squibs with and without RF and MF Protection, by C. Knapp, TR-2653, Oct. 1959.

Development of White Light Composition for Illuminating Projectile for 60mm Mortar, by M. B. Winokur, TR1195, Aug. 1942.

Development of White Light Composition for Use in Signal, Ground, White Star Parachute, by G. J. Schladt, W. H. Rinkenbach, TR1077, Mar. 1941, DDC-X5539.

Development of the 115mm XM White Smoke Cartridge for the 115mm XM70 Mortar, by J. H. Allison, Mar. 1960.

Development of Zirconium-Nickel Alloy Delay Powder for M204A1 Hand Grenade Fuzes, by D. J. Zander, T. J. Mahler, M. T. Hedge, TR2228, Jan. 1956, DDC-AD 81 618.

Differential Thermal Analysis of Inorganic Oxidants: Nitrates, by S. Gordon, C. Campbell, TR-2079, Nov. 1954, DDC-AD 49 410.

Differential Thermal Analysis of Inorganic Oxidants: Perchlorates, by C. Campbell, TR-2200, S. Gordon, July 1955.

PICATINNY ARSENAL (cont'd)

Differential Thermal Analysis of Potassium Perchlorate, by D. A. Anderson, E. S. Freeman, Mar. 1963, DDC-AD 403 804.

Differential Thermal Analysis of Saturated Polyesters, by D. A. Anderson, E. S. Freeman, PL-C-TN-19, Mar. 1958, DDC-AD 161 799.

Differential Thermal Analysis and Thermogravimetry Applied to Analytical Procedures for Potassium Perchlorate-Aluminum-Barium Nitrate Mixtures, by V. D. Hogan, S. Gordon, C. Campbell, TR2373, Feb. 1957, DA Proj. 504-01-030, Ord. Proj. TA2-9201, DDC-AD 121 426.

Discussions of Some Problems of Fast Transient Reproduction in the Pyrotechnic Test Facility, by J. F. Tyroler, Jan. 1958.

..Effect of Cross Sectional Area and Case Material on Burning Characteristics of Pyrotechnic Compositions (The ..), by B. Jackson, PL-C-TN 7, Sept. 1957, DDC-AD 115 722.

Effect of Fuel and Oxidant Particle Size on the Performance Characteristics of 60/40 Potassium Perchlorate/Aluminum Flash Composition, by S. M. Kaye, J. Harris, FRL-TR-44, OMS 5530.11.558A, DA Proj. 504-01-027 Nov. 1961, DDC-AD 266 486.

Effect of Loading Pressures on the Rate of Burning of 21- and 45-second Fuze Powder, by R. W. Scharf, TR675, Nov. 1935.

..Effect of Particle Size of Oxidants and Fuels (The ..), by S. M. Kaye, May 1962.

..Effect of Small Amounts of Foreign Substances upon the Functioning Characteristics of Photoflash Powders (The ..), by H. J. Eppig, O. E. Sheffield, TR1394, Feb. 1944, DDC-TIP X4470.

..Effect of Temperature on the Transmission Characteristics of Colored Glass Filters (The ..), by S. Haffner, TR2069, Sept. 1954, DDC-AD 44 542.

Effect of Variations in Proportions of Ingredients upon the Efficiency of the Barium Nitrate Photoflash Powder, by H. J. Eppig, O. E. Sheffield, TR1357, Oct. 1943, DDC-X4437.

Effect of Various Parameters on the Burning Characteristics of Pyrotechnic Illuminating Systems, by B. Jackson, Mar. 1957, DDC-TIP U47736.

..Effect of Various Parameters in Night Aerial Photography on the Area Photographed (The ..), by H. N. Cohen, G. F. Kottler, TR2149, Mar. 1955, DDC-AD 57 818.

Effects of Case Coating on Loading and Burning Characteristics of Experimental Illuminants for XM145 and XM146 Ground Signals, by J. Kristal, B. Werbel, OMS 5530.12.548F0, DA Proj. 504-22016, Oct. 1962.

Effects of a Change in Relay Loading Assembly and Photoflash Composition in the "Daisy" Photoflash Cartridge, by T. Advokat, Dec. 1957.

Effects on Light Output in the Buttercup Cartridge Occasioned by a Change in the Wall Thickness of the Charge Case, by T. Advokat, Dec. 1957.

Effects of Magnesium Content, Case Material, and Case Coating on Burning Characteristics of a Flare System, by A. F. Taschler, S. M. Kaye, TN 42, Apr. 1960, DDC-AD 235 837.

Effects of Materials on the Properties of Explosives, by O. E. Sheffield, TR-1783, Nov. 1950.

Effects of Moisture on the Stability of Pyrotechnic Compositions, by H. J. Eppig, TR 1661, Aug. 1947, DDC-ATI 206 634.

Effects of X-Ray and Gamma Ray Irradiation on Thermal Decomposition of Solid Ammonium Perchlorate, by E. S. Freeman, D. A. Anderson, Apr. 1960, DDC-AD 235 205.

Electrochemical and Chemical Methods of Self-Sterilization in the Antipersonnel Mine, T-52, A Feasibility Study, by B. Werbel, PL-C-TN-6, Aug. 1957.

..Electronic Conversion for Graphic Recording with the Chevenard Photographic Recording Thermobalance (An ..), by S. Gordon, C. Campbell, TR-2284, Mar. 1956, DDC-AD 90 661.

..Electronic Multiple Impulse Fuze for M15 Mine (An ..), by M. Lazarus, July 1960.

PICATINNY ARSENAL (cont'd)

- Electrostatic Sensitivity of Barium Chromate/Boron Compositions*, by A. F. Taschler, E. E. Jones, FRL-TN-3, Oct. 1960, PB149960, Ord. Proj. TS5-5407, DA Proj. 5S04-01-027, DDC-AD 244 572.
- Electrostatic Sensitivity of Pyrotechnic and Explosive Compositions: First Report*, by D. J. Edelman, Pyro. Lab. Info. Report.
- Encyclopedia of Explosives and Related Items. Vol. 1*, by B. T. Fedoroff, TR2700, 1960, DDC-AD 257 189.
- Energy Determination of Carbon Bridge Detonators*, by J. Silverstein, Oct. 1958.
- EPR Observation of NH_4^+ Formed by X-Ray Irradiation of Ammonium Perchlorate Crystals*, by J. S. Hyde, E. S. Freeman, FRL-TR-38, Aug. 1961, DDC-AD 261 343.
- Establishment of a Blend and Preliminary Loading and Testing of Powder, for the First Navy Order, for the 45-second Combination Fuzes, MK XVI*, by S. Livingston, TR108, July 1931, DDC-TIP U70197.
- ET Review Point Notes for 81mm T214E2 Illuminating Cartridge w/M77E1 TSQ Fuze*, by L. J. Frey, Jr., June 1960.
- ET Review Point Notes for XM Series Hand Held Ground Signals*, by S. Lopatin, Sept. 1960.
- Evaluation of 1.5-inch Canadian Elastic Signal Cartridge Case*, by B. Jackson, S. M. Kaye, G. Weingarten, RFL-TN-2, Aug. 1960, DDC-AD 243 022.
- .. Evaluation of Delmar Type 245 IR Tracking Flares (The ..)*, by J. Tyroler, May 1957.
- Evaluation of Doped Perchlorates in Experimental Photoflash Compositions*, by D. J. Edelman, S. M. Kaye, TM1091, Oct. 1963, AMCMS Code 5530.11.588, DA Proj. 5S04-01-027.
- Evaluation of Eimite as a Substitute for Black Powder in Artillery Primers*, by H. Hassman, TR2515, Apr. 1957, DA Proj. 5A04-01-040, Ord. Proj. TA1-5025, DDC-AD 157 638.
- .. Evaluation of Explosive Charges with Kodak Ektron Detectors (An ..)*, by J. Tyroler, May 1957.
- Evaluation and Extension of the Fisher Sub-Sieve Sizer as an Instrument for Determining the Average Particle Size of Powdered Pyrotechnic Ingredients*, by B. Dubrow, MR-12.
- Evaluation of Filter Paper and Delrin Plastic as Case Materials for Flare and Signal Systems*, by Joseph Kristal, Burton Werbel, Everett D. Crane, FRL-TN-51, Sept. 1961, DDC-AD 263 996.
- Evaluation of German Glide Flare*, by G. Schaffer, MR63, Oct. 1954, DDC-AD 45 642.
- Evaluation of Nongaseous High Altitude Flare Compositions*, by J. Kristal, S. M. Kaye, Feb. 1964.
- .. Evaluation of the NOTS Type 702A Infrared (An ..)*, by J. Tyroler, C. Knapp, Oct. 1957.
- Evaluation of the Sharples Micrometerograph for Particle Size Distribution Analysis*, by S. M. Kaye, D. E. Middlebrooks, G. Weingarten, Feb. 1962.
- Examination of Bofors Tracers for 37mm Shell*, by J. M. King, TR395, Aug. 1933, DDC-TIP U70348.
- Examination of Delay Element Primers and Investigation of a Mena for Sealing the Interior of the Fuze*, by A. F. Teitscheid, TR446, Dec. 1933, DDC-TIP U70020.
- .. Examination of Foreign Material (Memorandum Report on ..)*, by R. E. Wakeman, MR-39, Aug. 1953, DDC-AD 24 825.
- Examination of C/R, 76mm Fired, API-T w/Explosive Filler, Code UBZR-354B w/Projectile BR-350B and Fuze BD, Model MD-5, FMAM-2356A*, by A. B. Schilling, TR1905, Aug. 1953; Rev. June 1954, Proj. TB3-0035, DDC-AD 21 200.
- Examination of German Aircraft Colored Smoke Signals (FMAM-437)*, by F. G. Haverlak, TR-1505, Mar. 1945.

PICATINNY ARSENAL (cont'd)

Examination of German Colored Smoke Signals for Hand Use (FMAM-435) by F. G. Haverlak, TR1519, Apr. 1945.

Examination of Soviet Flares, Signal, Ground, 1 Red, 1 Green, 1 $\frac{3}{4}$ inches dia, 10 $\frac{3}{8}$ inches long, by R. E. Wakeman, MR-39, Aug. 1953.

Examination of Unfired 75mm Chemical (Smoke) Shell, German, FMAM-118, by A. B. Schilling, TR1334, Nov. 1943.

Examination of Unfired 85mm API-T Complete Round of Soviet Ammunition, Mod. UBZR-365K, FMAM 2313, by A. B. Schilling, TR1910, Mar. 1953, Proj. TB-0035, DDC-AD 8882.

Examination of Unfired Explosive Incendiary Shell Complete Rounds of German 20mm Solothurn Ammunition (FMAM-518), by F. G. Haverlak, TR1478, Dec. 1944, DDC-X10541.

Examination of Unfired 20mm HE Shell Destroying Tracer Type, Complete Round of German Ammunition, by A. B. Schilling, TR1256, May 1943, DDC-TIP U69857.

Examination of Unfired HE Tracer Shell Complete Rounds of German 20mm Mauser Ammunition (FMAM-420), by F. G. Haverlak, TR1430, July 1944, DDC-TIP U71287.

Examination of Unfired 20mm AP Incendiary Complete Round of German Ammunition, by R. M. Dennis, TR1248, Apr. 1943.

Experimental Verification of Expression for Rate of Fall of Parachute Suspended Flare, by M. Nowak, J. Tyroler, TR2623, July 1959, DDC-AD 214 769.

Explosive Characteristics of the R23H Tracer, by K. S. Warren, L. H. Eriksen, TR1354, Oct. 1943, DDC-X4434.

Feasibility of an Electronic 24-hour Timer for a Demolition Device, by M. Lazarus, Mar. 1963.

Feasibility Study of a 90mm T91 HE White Marker Shell, by K. C. Sheffield, P. B. Tweed, C. E. Jacobson, TR2410, July 1957, DDC-AD 137 853.

.. Feasibility Study on Monochromatic Detection by Photography (A..), by M. Nowak, Nov. 1959.

Feasibility Study of Solid State Safety and Arming Device for Squibs, R. M. Grogan, P. J. Kirsatsky, Apr. 1964.

Feasibility Study of Ultraviolet Systems, by P. Zirkind, Mar. 1961.

Flare Simulation of Missile Radiation Characteristics, by C. A. Knapp, Apr. 1964.

Flare, Tracking, M136 (T131), by W. A. Maciejczyk, TN120, June 1956, DDC-AD 98 028.

.. Flush Smoke Rocket Head and Its Fuzing System (XM4 762mm..), by L. J. Frey, Jr., R. B. Wright, Aug. 1957.

Formula for Calculating Parachute Velocity Relative to Load in Designing a Parachute Suspension System, by H. N. Cohen, L. A. Dubrow, Apr. 1955, DDC-AD 60 624.

Friction Pendulum, Picatinny Arsenal Test Manual 7-1.

Further Research on CeMg and LaMg Systems, by R. Vogel, T. Heumann, Jan. 1947, DDC-ATI 9865.

Gas Generator for the E120 Bomblet, by Arthur Graff, R2633, Dec. 1959.

Gasless Powders for Delay Elements of Fuzes, by D. Hart, TR1239, Feb. 1943, Same by D. Hart, TR1406, Mar. 1944, DDC-X4478. Same by D. Hart, TR1513, Mar. 1945.

German Illuminating Flares, by H. J. Eppig, Aug. 1945, DDC-TIP U2335.

Hand Grenades and Incendiary Bottles, by H. Voos, May 1958, Translation No. 25 from NiD-Tgh-No. VII/B/15/53, DDC-AD 162 702.

.. HE Colored Marker Shell for 105mm Howitzers (M2A1, M2A2, M4, M4A1) (M1, 105mm..), by T. Advokat, TR2304, Oct. 1956, DDC-AD 111 782.

PICATINNY ARSENAL (cont'd)

- ...HE Colored Marker Shell for M29 and T72 Mortars (81mm M362...),* by T. Advokat, TR2664, Jan. 1960, DDC-AD 314 621.
- Heats of Reaction of Various Chemical Systems for Use in Pyrotechnics and Propellants,* by C. Knapp, July 1963.
- High Altitude Flash Characteristics of Calcium/Potassium Perchlorate and Standard Photoflash Compositions,* by S. Lopatin, TR2646, Oct. 1959, DDC-AD 313 204.
- ...High Explosive Colored Marker Shell (81mm M362...),* by T. Advokat, TN148, Jan. 1957, DDC-AD 123 896.
- Ignition Temperature and Differential Thermal Analysis Data for Frankford Arsenal Experimental Igniter and Tracer Compositions,* by E. D. Crane, S. Gordon, Jan. 1958.
- ...Improved Delay Circuit for Fuzing Applications (An...),* by C. L. Smith, M. Lazarus, Nov. 1956.
- Improved Green, Red, Yellow and Violet Compositions for Rocket-Type Parachute Ground Signals,* by Everett D. Crane, Burton Werbel, Garry Weingarten, May 1963, DDC-AD 404 312L.
- Improved Methods and Techniques for Testing Impact Sensitivity of Explosives,* by A. Bulfinch, TR2282, July 1956, DDC-AD 103 505.
- Improvement of M-8 Flare,* by H. S. Eroe, TR517, June 1934, DDC-TIP U70378.
- Improvement of M-9 Flare,* by W. H. Rinckenbach, G. J. Schladt, TR685, Dec. 1935, DDC-X4090.
- Improvement in M8 Flare. Report of Static Tests of Illuminants Encased in Metallic Sheathing,* by H. S. Eroe, TR688, Jan. 1936, DDC-TIP U70554.
- Impovished Pyrotechnic Mixtures for Guerrilla Warfare Applications,* by B. Jackson, Jr., S. M. Kaye, TM1280, Apr. 1964, AMCHS Code 5561.12. 46802, DA Proj. 1A542703-D-346, DDC-TIP U71205.
- Infrared Flash MX-1218/DA Pyrotechnic Study,* by S. Resnick, TR2010, May 1954, DDC-AD 33063.
- Infrared and Visible Radiation Research Section, a Novel Approach for Determining Sensitivity of a Detector,* by J. F. Tyroler, June 1960.
- Initial Evaluation of Low Energy Detonating Cord to Ignite Metal Oxidant Type Powders in Artillery Primers,* by H. Hassman, TR2460, Sept. 1957, DA Proj. 5A04-01-040, Ord. Proj. TA1-5025, DDC-AD 140 683.
- Investigate the Practicability of Utilizing a New Type of Primer Composition for Fuzes,* by C. J. Bain, TR 859, Oct. 1937, DDC-TIP U222991.
- Investigation of the Vaporization and Thermal Decomposition of Organic Dyes. I. Thermogravimetric Determination of the Energies of Activation for Volatilization,* by D. A. Anderson, S. Gordon, D. J. Edelman, PL-C TN 16, Apr. 1958.
- Investigation of the Vaporization and Thermal Decomposition of Organic Dyes. II. Differential Thermal Analysis and Thermogravimetric Analysis of Organic Dyes,* by D. Edelman, D. A. Anderson, S. Gordon, PL-C-TN-25, May 1958.
- Instrumentation and Applications to Thermogravimetry and Differential Thermal Analysis,* by C. Campbell, S. Gordon, C. L. Smith, M-25, July 1959.
- Integrating Circuit for Evaluating Flame Munitions,* by C. L. Smith, C. W. Pinkley, TR2369, Oct. 1956, DDC-AD 111 787.
- Investigation of Cause of Dripping from M8A1 Flares,* by G. J. Schladt, TR1096, June 1941, DDC-TIP U69772.
- Investigation of Delayed Arming Mechanism in the M103 Nose Bomb Fuze to Determine the Cause of Binding,* by F. Schultze, TR937, Nov. 1938, DDC-TIP U70783.
- Investigation to Determine the Cause of Blinds and Short Traces in 37mm Tracer Ammunition,* by F. V. Ludden, TR464, Jan. 1934, DDC-TIP U70030.

PICATINNY ARSENAL (cont'd)

Investigation to Determine the Cause of Deterioration of Signals, Aircraft, White Star, Parachute, M10 of Lot 2-1, by E. F. Reese, 9 Feb. 1939, DDC-TIP U70796.

Investigation to Determine Cause of Hangwire Failures of M8 Flares, by H. S. Eroo, TR696, Mar. 1936, DDC-TIP U70561.

Investigation to Determine Practice Loading for Anti-Tank Mine and Fuze, by F. Schultze, TR1010, Nov. 1939, DDC-TIP U71368.

Investigation of Domestic Woven Silk for Pyrotechnic Parachutes, by H. S. Eroo, TR791, Jan. 1937, DDC-TIP U70644.

Investigation of Effects of Burning Area on Candlepower of Pyrotechnic Compositions, by W. H. Rinckenbach, J. B. Nichols, TR646, Aug. 1935, DDC-TIP U70522.

Investigation of the Effects of Loading Pressure, Flare Case Coating and Magnesium Particle Size on the Burning Time, Luminous Intensity and Color Characteristics of Pyrotechnic Flare Compositions (An...), by B. Jackson, PL-C-TN 14, Apr. 1958, DDC-AD 147 155.

Investigation of Factors Affecting the Burning Time of Time Fuzes, by R. W. Scharf, TR574, Jan. 1935, DDC-TIP U70434.

Investigation of Failure of M23 Photoflash Bomb, by J. H. Robinson, TR1040, June 1940, DDC-TIP U69717.

Investigation of Failures of M23 Photoflash Bombs, Lot 11/402-1, by J. H. Robinson, TR1068, Jan. 1941, DDC-TIP U69744.

Investigation of the Feasibility of an Electromagnetic Induction Fuze for Photoflash Cartridges, by M. Klein, J. Bolognese, TR1917, Jan. 1953, DDC-AD 9931.

Investigation into the Feasibility of a Pyrotechnic Laser Pump (An...), by C. L. Smith, P. J. Kisatsky, TM310 2, Aug. 1963, DDC-AD 420 238.

Investigation of Flare Illumination Intensity Measurement Technique (Interim Report on...), by P. Zirkind, Oct. 1961.

Investigation of Foreign Tracer Compositions, by L. H. Eriksen, TR1386, Feb. 1944. Same by L. H. Eriksen, TR1413, Apr. 1944, DDC-X4484. Same by L. H. Eriksen, TR1415, May 1944, DDC-X4486.

Investigation of Ground Signals with Extruded Aluminum Bodies, by W. R. Carson, TR1081, Apr. 1941, DDC-TIP U69757.

Investigation of Hercules Non-Gaseous Powder for Use in 21-second Time Fuze, by R. W. Scharf, TR648, Sept. 1935, DDC-TIP U70524.

Investigation of the Heats of Reaction of Various Chemical Systems for Use in Pyrotechnics and Propellants (An...), by C. Knapp, PL-C-TN-2, July 1957, DDC-AD 111 788.

Investigation of the Ignition and Burning Characteristics of Zirconium Powder, Types I and II, Frankford Arsenal Purchase Description RED-1655 (An...), by C. Knapp, G. Weingarten, R. Davis, Sept. 1953. Same by C. Knapp, G. Weingarten, R. Davis, PL-C-TN-3, July 1957.

Investigation of Ignition Failures of the G8A1 Flare, by H. S. Eroo, TR961, Mar. 1939.

Investigation of Lampblack for Use in 21-second Fuze Powder, by R. W. Scharf, TR619, May 1935, DDC-TIP U70476.

Investigation of Loading of Non-Gaseous Fuze Powder, by C. J. Bain, TR816, Apr. 1937, DDC-TIP U70668.

Investigation of Mildew Preventatives for Pyrotechnic Parachute Silk and Mercerized Cotton Airplane Cloth, by J. D. Hopper, TR789, Dec. 1936, DDC-TIP U70642.

Investigation of Oak Charcoal for Use in 21-second Time Fuze, by R. W. Scharf, TR615, July 1935, DDC-TIP U70472.

Investigation of the NOL #130 Primer Mixture, by D. E. Seeger, TR2164, Apr. 1955, DDC-AD 64 103.

PICATINNY ARSENAL (cont'd)

- Investigation of Spanish Caliber .50 Incendiary Bullet*, by C. E. Webster, TR1059, Dec. 1940.
- Investigation of Stability of Igniter Composition "K" and Red Tracer Composition*, by D. Hart, TR1303, June 1943, DDC-TIP R55251. Same by D. Hart, TR1645, May 1945, DDC-ATI 207 381.
- Investigation of Torpedo Igniter Mark VI, Models 2, 3 and 4*, by G. Weingarten, C. Knapp, TR2180, July 1955, DDC-AD 68 345.
- .. Kinetics of the High Temperature Reaction Between Magnesium Powder and Oxygen (The..)*, by E. S. Freeman, C. Campbell, Oct. 1962, DDC-AD 287 739.
- .. Kinetics of the Thermal Decomposition of Potassium Nitrate and of the Reaction Between Potassium Nitrite and Oxygen (The..)*, by E. S. Freeman, 1957.
- Kinetics of the Thermal Degradation of Laminac 4116, a Synthetic Styrenated Polyester*, by D. A. Anderson, E. S. Freeman, FRL-TR-2593, Dec. 1959, DDC-AD 230 497.
- Kinetics of the Thermal Degradation of Polystyrene and Polyethylene*, by D. A. Anderson, E. S. Freeman, FRL-TR-32, July 1961.
- .. Kinetics of the Underwater Corrosion of Powdered Magnesium (The..)*, by E. S. Freeman, S. Gordon, Feb. 1955; TR2203 Sept. 1955, DDC-AD 72 673.
- Light Emission Characteristics of Experimental Safe-Type Metal Dust Photoflash Bombs (Shaped Bursters)*, by J. E. Andrews, G. Weingarten, TR2047, Aug. 1954, DDC-AD 41 707.
- Light Emission Characteristics of T9E8 Photoflash Bombs in B17 and RB36 Aircraft Tests*, by H. J. Eppig, G. Weingarten, A. L. Dorfman, D. Hart, TR1775, June 1950.
- Loading the M16 Delay Holder*, by S. Slemrod, TM-16, July 1943.
- Long Range Basic and Technical Research Leading to Satisfactory Tracer Composition, Determination of Optimum Conditions for Tracer Loading*, by P. B. Tweed, TR1684, Mar. 1948, DDC-ATI 207 383.
- Long Range Development of Delay Powders for Ammunition Fuze Application (Bomb Fuzes)*, by M. C. Epton, J. D. Hopper, TR1686, Apr. 1948, Proj. TM-2-9203A.
- Long Range Development of Delay Powders for Ammunition Fuze Applications*, by D. Hart, TR1733, June 1949.
- Long Range Development of Delay Primers for Ammunition Fuze Applications*, by D. Hart, TR1735, June 1949, DDC-TIP U71096.
- Long Range Research on Pyrotechnics*, by G. Weingarten, B. Dubrow, Mar. 1953.
- Long Range Research on Pyrotechnics: Burning Characteristics of Binary Mixtures*, by D. Hart, H. J. Eppig, TR1669, Oct. 1947, DDC-ATI 66 289.
- Long Range Research on Pyrotechnics: Development of an Illuminant Composition for the T10E2 Aircraft Flare*, by D. Hart, H. J. Eppig, TR1710, Jan. 1949, DDC-AD 128 405.
- Long Range Research on Pyrotechnics: Development of an Improved Smoke Composition for Activator, Practice, M1*, by G. Weingarten, TR1799, Nov. 1950.
- Long Range Research on Pyrotechnics: Development of a Portable Integrating Photometer for Photoflash Bomb Evaluation*, by C. L. Smith, C. W. Pinkley, TR1930, Mar. 1953, DDC-AD 14 282.
- Long Range Research on Pyrotechnics: Evaluation and Extension of the Fisher Sub-sieve Sizer as an Instrument for Determining the Average Particle Size of Powdered Pyrotechnic Ingredients*, by B. Dubrow, G. Weingarten, MR-12, Mar. 1953, DDC-AD 6254.
- Long Range Research on Improved Igniter-Type Powders, Develop Non-Hygroscopic Igniter Powder*, by S. Livingston, TR1612, June 1946, DDC-ATI 204 952.

PICATINNY ARSENAL (cont'd)

Long Range Research on Pyrotechnics: Parachute Illuminating Flares, by D. Hart, G. Kottler, C. Knapp, TR1839, Sept. 1951, DDC-ATI-117 282.

Long Range Research on Pyrotechnics (Special Types of Magnesium Powder for Use in Tracer and Igniter Compositions), by W. H. Rinckenbach, H. J. Eppig, TR1683, Mar. 1948, DDC-TIP U71069, DDC-ATI 207 302.

Long Range Research on Pyrotechnics: Statistical Description of Particle Size and Distribution of Atomized Magnesium Powder, by B. Dubrow, TR1887, July 1952, DDC-AD 3331.

Long Range Research on Pyrotechnics: a Study of Light Emission Characteristics of Safe, Dust Type Photoflash Bombs, by H. J. Eppig, D. Hart, TR1727, Apr. 1949, DDC-TIP C60012.

Long Range Research on Pyrotechnics: Statistical Description of Particle Size and Distribution of Magnesium Powder, by B. Dubrow, 1952, DDC-ATI 3331.

Magnetic Core Counters, by D. L. Dickerson, P. J. Kisatsky, Aug. 1963.

Malfunction Investigation of Cartridge, 105mm, Smoke, IIC, BE, M84, by W. I. Gaston, AED TR 3094, July 1963, DDC-AD 413 801.

Malfunction Investigation of Star Failures in Signals, Illuminating, Aircraft, Double Star Models AN-M39A2, AN-M41A2 and AN-M42A2, by George Nilsen, TR3033, May 1962, DDC-AD 277 419L.

Manufacture of Barium Chromate Delay Powder on a Semi-Plant Scale, by S. Sage, TR1432, July 1944, DDC-TIP U70907.

Manufacture 15 Flashlight Bombs, Preparation of Flashlight Bomb Drawings, by H. S. Eroo, TR611, Apr. 1935, DDC-TIP U70469.

Mass Spectrometric Analysis of Gaseous Combustion Products from Delay Powders, by P. Rochlin, TR2006, Mar. 1954, DDC-AD 28 954.

Mechanism of Ignition and Propagation of Oxidant-Metal Flashes (The ...), by J. Hershkowitz, April 1958, DDC-AD 156 424.

Metal Dust Photoflash Bombs, by S. A. Richer, Research and Development Lecture, Picatinny Arsenal, June 1954.

Method for Calculating Maximum Impact Load in Designing a Parachute Suspension System, by H. N. Cohen, Apr. 1955, DDC-AD 60 623.

Method for Designing and Optimum Photoflash Bomb, by H. N. Cohen, TR2153, Apr. 1955, DDC-AD 60 522.

Method for Determining the Moisture Content of Non-Laminar Type Pyrotechnic Compositions (A ...), by A. R. Lusardi, J. Wingler, TR2516, Aug. 1958, DA Proj. 5A04-01-027, Ord. Proj. TS5-5407, DDC-AD 201 940.

Method for Thermogravimetrically Determining Activation Energies of Vaporization and Sublimation, and an Estimation of These Latent Heats, by D. Anderson, S. Gordon, C. Campbell, Mar. 1958.

Military Pyrotechnics, by D. Hart, Encyclopedia Report No. U924, DDC-ATI 19 999.

Modification of M8 Flare Composition to Increase Candlepower, by G. J. Schladt, TR538, Aug. 1934, DDC-TIP U70399. Same by W. H. Rinckenbach, G. J. Schladt, TR676, Nov. 1935, DDC-X4086, DDC-TIP U70549. Same by W. H. Rinckenbach, J. B. Nichols, TR801, Feb. 1937, DDC-X4157, DDC-TIP U70654. Same by W. H. Rinckenbach, TR841, June 1937, DDC-X4187. Same by W. H. Rinckenbach, C. G. Dunkle, TR947, Dec. 1938, DDC-X4262, DDC-TIP U70791.

New High Altitude Photoflash Compositions, by D. Hart, S. Lopatin, TR2467, Aug. 1957, DA Proj. 5A04-01-027, Ord. Proj. TA2-9201, DDC-AD 138 615.

New Infrared Flare Compositions, by C. A. Knapp, TR3020, July 1963, DDC-AD 337 490.

New Infrared Flare and High Altitude Igniter Compositions, by C. A. Knapp, TR2620, July 1959, DDC-AD 306 237.

PICATINNY ARSENAL (cont'd)

- New Light Producing Reactions for Photoflash Items: Bromine Trifluoride with Powdered Aluminum and Magnesium*, by J. E. Andrews, G. Weingarten, TR2250, Nov. 1955, DDC-AD 80 278.
- New Methods for the Measurement of Relative Ignitability and Ignition Efficiency*, by C. R. Grande, TR2469, Feb. 1958, DDC-AD 153 190.
- New Red, Green and White Compositions for Hand Held, Rocket-Type Signal Flares*, by E. Crane, J. Kristal, TN 50, June 1960, DDC-AD-239 166.
- New Type Photographic Brightness Pyrometer*, by J. F. Tyroler, TR-2135, Mar. 1955.
- Notes on Illuminating Ammunition*, by B. E. Quass, Apr. 1953.
- .. Optical Density of Smoke Produced from No. 5, MK 1 and Nobel (1929) Generators in Relation to Concentration and Particle Size (Report on ..)*, by H. Green, J. A. Bannerman, PR1638, Nov. 1936.
- Optical Method of Obtaining Sequencing Time of Events without Direct Contact with the Test Item*, by J. L. Wright, C. L. Smith, Nov. 1957.
- .. Optimum Height of a Burning Flare (The ..)*, by H. N. Cohen, TR2081, Oct. 1954, DDC-AD 44 36.
- Parachutes for Bombs and Flares*, by S. K. Einbinder, TN13, Sept. 1957, DDC-AD 144 766.
- Pelletization of Illuminants to Improve Photoflash Efficiency*, by S. Lopatin, C. A. Knapp, TN24, Aug. 1959, DDC-AD 207 077.
- .. Photoflash Cartridge (T102 ..)*, by J. H. Allison, Aug. 1957.
- .. Photoflash Cartridge (XM143 ..)*, by E. Bertrand, Mar. 1960.
- Photometric Analysis of Barium Nitrate in Air-Hydrogen, Oxhydrogen, and Oxyacetylene Flames*, by J. M. Lavitt, TR-2192, July 1955.
- Polymerized Laminac Resin 4116: Heats of Formation and Combustion and Carbon, Hydrogen, Oxygen Content*, by G. Weingarten, Sept. 1963, DDC-AD 419 594.
- Poppy Photoflash Cartridge Assembly*, by A. J. Neigh, A. J. White, Jr., July 1962.
- Pre-Ignition and Ignition Reactions of the Pyrotechnic Smoke Composition Zinc-Hexachloro-Benzene-Potassium Perchlorate*, by S. Gordon, C. Campbell, TR2123, Mar. 1955, DDC-AD 59 206.
- Pre-Ignition and Ignition Reactions of the System Barium Peroxide-Magnesium-Calcium Resinate*, by V. D. Hogan, S. Gordon, 1957.
- Pre-Ignition and Ignition Reactions of the System Magnesium-Sodium Nitrate-Laminac*, by V. D. Hogan, S. Gordon, PL-C-TN-23, Apr. 1958.
- Preliminary Evaluation of the Coulter Counter Particle Size Instrument*, by D. E. Middlebrooks, S. M. Kaye, D. J. Edleman, G. Weingarten, TM1054, Oct. 1963, AMCMA 5530.11.558, 5504-01-027.
- Preliminary Investigation of Effect of Plastic Cases on Light Output of the "Daisy" Photoflash Cartridge*, by B. E. Quass, Nov. 1956.
- Preliminary Investigation of 155mm M107 HE Colored Marker Shell*, by M. J. Margolin, TR2233, Aug. 1955, DDC-AD 71 558.
- Preliminary Report on 200-second Magnetic Core Timer*, by D. L. Dickerson, P. J. W. Kisatsky, Apr. 1964.
- Preliminary Results Obtained from Constant Current Time Delay Circuits for Use in the T52SS Land Mine*, by M. Lazarus, C. L. Smith, Apr. 1957.
- Preliminary Study of the Effect of Ignition Parameters on the Performance of Photoflash Powder Munition*, by M. Klein, TR2018, May 1954, DDC-AD 32 440.
- Preparation of Tetranitrocarbazole on a Semi-Plant Scale*, by Maurice Baer, TR1984, Nov. 1953, DDC-AD 21 194.

PICATINNY ARSENAL (cont'd)

Primer Compositions, by E. Herz, Translation No. 92, May 1960, DDC-AD 237 678.

.. *Primer Mixture for Initiating Delay Compositions (PA-101..)*, by T. W. Stevens, K. G. Sheffield, Ord. Proj. PA-3-6, Report No. 10, Apr. 1957.

Production Engineering and Improvement of Igniter for 3.5-inch Rocket M28A2, M29A2, and M80, DC-tr:3-58, Apr. 1959, DDC-AD 216 210.

Progress in High Altitude Flash Compositions, by D. J. Edleman, S. M. Kaye, RFL-TN-117, May 1962, OMS Code 5530.11.558A, DA Proj. 504-01.027.

Propagation Phenomena in a Photoflash Mix (60/40 by Weight of Potassium Perchlorate/Atomized Aluminum), by J. Hershkowitz, Feb. 1958.

Properties of Explosives. A Study of the Influence of Several Chemical and Thermodynamic Properties on the Ignition Efficiency of the M1A1 Squib and the M1A1 Squib Loaded with "Modified" T61 Composition, by C. Lenchitz, TR1940, June 1953, DDC-TIP U17097.

Properties of MOX-Type Explosive Mixtures, by O. E. Sheffield, TR2205, Oct. 1955.

Proposed Time Delay Circuit Utilizing Constant Current Device, by C. L. Smith, M. Lazarus, Jan. 1957.

Pyrotechnic Laser Program (I), by C. L. Smith, Dec. 1962.

Pyrotechnic Laser Program (II), by C. L. Smith and J. L. Wright, Apr. 1963.

Pyrotechnic Spotting Device for the Honest John Rocket System, by R. B. Wright, TR2691, July 1960.

Pyrotechnics Launcher and Sequence Flash Cartridge as a Missile-Borne Tracking Aid, by P. A. Larsen, TR2426, June 1957, DA Proj. 504-01-031, Ord. Proj. TA2-0001, DDC-AD 135 176.

Radiation Characteristics of the XM-13 and the 20mm Hispano Suiza Tracer Rounds, by M. Nowak, J. R. Staley, R. B. Davis, W. S. Wheeler, TR3049, May 1963, DDC-AD 406 273.

.. *Radioactivity-Controlled Time Fuze for "Sofar" Bomb (A..)*, by P. Kisatsky, Oct. 1961.

Radiometric Determination of Homogeneity of a Multicomponent Pyrotechnic Mixture, by R. J. Graybush, T. C. Castorina, TR3057, Feb. 1963, DDC-AD 297 999.

.. *Recoilless Rifle Artillery Flash Simulator (XM156 106mm..)*, by J. H. Allison, June 1960.

.. *Relationship Between the Length-to-Diameter Ratio of the Container and the Time-Luminosity Characteristics of Type III Photoflash Powder (The..)*, by S. Sarner, R. Schiffman, R. Ozimek, TR2045, Aug. 1954, DDC-AD 39 339.

Research and Development on Military Pyrotechnics, by D. Hart, Feb. 1955, DDC-TIP U10769.

Research and Development Progress in Military Pyrotechnics, Lecture No. 24, Feb. 1955, DDC-AD 82 678.

Resins Other Than Laminac 4116 as Binders in Pyrotechnic Compositions, by B. Jackson, S. M. Kaye, G. Weingarten, TN40, Jan. 1960, DDC-AD 231 486.

Reusable Selectable Time Circuits for Self-Sterilization of the T-52 Mine, by C. L. Smith, M. Lazarus, Oct. 1958.

Review of Development of Night Photography from Records Supplied by Wright Field, Dayton, Ohio, Memo for Files, Pyrotechnic Section, 29 October 1937.

.. *Rocket Artillery Flash Simulator (XM157 3.5"..)*, by J. H. Allison, Aug. 1960.

Rocket, Flash, 2.75", T237, by C. Knapp, June 1957.

.. *Rocket Flash Smoke Head and Its Fuzing System (XM4E2 762mm..)*, by L. J. Frey, Jr., R. B. Wright, June 1958.

PICATINNY ARSENAL (cont'd)

- Sea Level and High Altitude Performance of Experimental Photoflash Compositions*, by S. Lopatin, FRL-TR-29, Oct. 1961, DDC-AD 266 213.
- Segregation of Potassium Perchlorate in Photoflash Powder*, by O. E. Sheffield, TR1278, Apr. 1943.
- ... Selected Literature of Infrared Radiation (Interim Report on ...)*, by C. Campbell, Mar. 1960.
- Self Hardening Pyrotechnic Compositions*, by H. J. Eppig, J. D. Strachan, TR1801, Dec. 1950, DDC-AD 223 113.
- Sensitivity of Tracer Compositions Containing Barium Nitrate*, by H. J. Eppig, TR1254, Mar. 1943, DDC-TIP U71194.
- Shell, Fired, Smoke, Colored, T49, 90mm Gun, M1A2*, by P. B. Tweed, TR1673, Nov. 1947.
- Simple Conversion for Automatically Recording Weight Changes with an Analytical Balance*, by C. Campbell, S. Gordon, Feb. 1957.
- Simple Method for Derivative Differential Thermal Analysis*, by E. Freeman, D. Anderson, M-13, 1959.
- Simulated High Altitude Tests of Illuminating Compositions*, by S. Resnick, TR2166, Apr. 1955, DDC-AD 61 693.
- Simulated High Altitude Tests of Pyrotechnic Flares*, by W. L. Grafton, Aug. 1955, DDC-TIP U27604.
- ... Smoke Container for Use with Aircraft for Ascertaining Wind Direction (Report on ...)*, by F. L. Gossage, PR23, Sept. 1922.
- Smoke Streamer Signals*, by R. E. Wakeman, Lecture given 18 May 1954 at Picatinny Arsenal.
- Smokes*, by J. E. Andrews, Jr., B. Werbel, FRL, May 1962.
- Solution of the Non-Functioning Problem of the T37 Land Mine under Simulated Test Conditions*, by C. L. Smith, M. Lazarus, Jan. 1957.
- Some Effects of Temperature on Light Output of Daisy Type Flash Cartridges of Cellulose Acetate Butyrate*, by B. E. Quass, Dec. 1956.
- Some Properties of Stoichiometric Delay Compositions Containing Boron as a Fuel*, PL-C-TN-12, Jan. 1958, DDC-AD 158 199.
- Special Types of Magnesium Powder for Use in Tracer and Igniter Compositions*, by H. J. Eppig, TR-1683, Mar. 1948.
- Spectral Energy Distribution of the Flash from 80/20 Tritonal Employed as a Spotting Charge in the Loki Warhead*, by S. Resnick, TR2127, Jan. 1955, DDC-AD 55 191.
- Spectrograms and Spectral Energy Distribution Curves of Flares, Guide, T6E1, T7E1, and T8E1*, by D. Hart, H. J. Eppig, TR1526, May 1945, DDC-X4568, DDC-TIP U70980.
- Spotting Charge Composition Progress*, by S. Lopatin, PL-C-TN 15, Mar. 1958.
- Stability of Pyrotechnic Compositions Employed in the AN-M53 to -M58 Aircraft Signals*, by H. J. Eppig, TR-1588, Jan. 1946.
- Stability Tests on Special Pyrotechnic Compositions*, by G. J. Schladt, TR42, Apr. 1931, DDC-TIP U69920. Same by G. J. Schladt, TR176, Mar. 1932, DDC-TIP U70262. Same by G. J. Schladt, TR472, Feb. 1934, DDC-TIP U70037. Same by G. J. Schladt, TR618, Apr. 1935, DDC-TIP U70475. Same by J. B. Nichols, TR846, July 1937, DDC-TIP U70698. Same by C. G. Dunkle, TR930, Oct. 1938, DDC-TIP U70776. Same by G. J. Schladt, TR983, Aug. 1939, DDC-TIP U70824. Same by V. C. Allison, TR762, Aug. 1936.
- Stabilization of Ground Signals*, by H. S. Eroo, TR497, Apr. 1934, DDC-TIP U70062.
- Stabilized Ground Signals, Streamer Type*, by H. S. Eroo, TR606, Apr. 1935, DDC-TIP U70464.
- Standard Laboratory Procedures for Sensitivity, Brisance, and Stability of Explosives*, by W. H. Rinckenbach, A. J. Clear, TR1401, Rev. 1, Mar. 1944; Rev. Feb. 1950, DDC-TIP U59811.

PICATINNY ARSENAL (cont'd)

Static and Aerial Flash Characteristics of T92 Photoflash Bombs Loaded with Type III, Class A Photoflash Powder and Aerial Tests of M120 Photoflash Bomb Cases Loaded with Experimental Photoflash Compositions, by G. Weingarten, PATR 2058, Aug. 1954, DDC-AD 52 388.

Static Illumination Tests of T102 Photoflash Cartridges, by J. Allison, Jan. 1957.

Statistical Evaluation of the Pyrotechnics Electrostatic Sensitivity Tester (A . .), by E. Crane, July 1959.

Steel-Wool White Phosphorus (SWP) Smoke Grenade (The T36E1 . .), by L. F. Young, W. M. Conway, TR 2618, Proj. TA1-4054, Nov. 1959.

Studies of Some Delay Compositions, by B. Werbel, TX-42, Mar. 1955, DDC-AD 83 079.

Study of Barium Nitrate for Use in 21-second Fuze Powder, by R. W. Scharf, TR639, July 1935, DDC-TIP U70496.

Study of Barium Nitrate for Use in 21-second Fuze Powder, by P. Varrato, TR746, Aug. 1936.

Study of Explosive and Incendiary Powder Developed by Mr. Folke L. Shovic, by A. J. Phillips, TR1322, Aug. 1943, DDC-TIP U71233.

Study of the Factor Involved in Securing Uniformity of Rate of Burning of Red Lead-Silicon Powder (A . .), by S. Livingston, TR31, Aug. 1928, DDC-TIP U69910; TR105, Nov. 1930, DDC-TIP U70195.

Study of Flight Burning Times of 45-second Time Fuzes, by D. R. Beeman, TR813, Apr. 1937, DDC-TIP U70665.

Study of the Infrared Properties of Solid Propellant Rocket Motor Plumes, by J. L. Wright, P. Birkind, Nov. 1961.

Study of the Light Emission Characteristics of Safe, Dust Type Photoflash Bombs (A . .), by D. Hart, TR-1727, Apr. 1949; TR-1757, Feb. 1950.

Study of Methods for Determining the Sub-Sieve Particle Size Distribution of Manganese Powder, by V. Lindner, TR1650, Apr. 1947.

Study of Nickel-Zirconium Type Delay Composition for Use in 11- to 14-second T2 Primer-Detonator, by T. J. Mahler, M. C. Epton, TR1976, DDC-AD 18 873.

Study of Passive Decoy Techniques for Supersonic Vehicles, by C. A. Knapp, A. Graff, Jan. 1964.

Study of Possible Substitutes for Magnesium and Aluminum in Pyrotechnics and Tracer Compositions, by O. E. Sheffield, TR1215, June 1943, DDC-X4320.

Study Report for Optimum Height, Illuminance and Burning Time for T10E4 and T10E6 Aircraft Parachute Flares, by F. Shelton, Oct. 1957.

Study of Slow Burning Fuze Powders Containing Barium Nitrate and Oak Charcoal, by P. Varrato, TR812, Apr. 1937, DDC-TIP U70664.

Study of Special Types of Aluminum Powder for Use in Flare Composition, by A. Strasser, TR1178, June 1942, DDC-X5625.

Study Substitution of Potassium Perchlorate as a Substitute for Ammonium Perchlorate in the R23E Composition for Signal, Aircraft, Red Star Cluster, M14, by G. J. Schladt, TR1049, July 1940, DDC-TIP U69726.

Study Substitution of Potassium Perchlorate as a Substitute for Ammonium Perchlorate in the R23E Composition for Signal, Aircraft, Red Star Cluster, M14, by W. H. Rinckenbach, TR1049, July 1940, DDC-X5515.

Study Use of 85-percent Grade of Sodium Oxalate in Pyrotechnic Compositions, by A. Strasser, TR1161, Mar. 1942, DDC-X5612.

Study of the Use of Metallic Magnesium in the Pyrotechnic White Light Compositions, by G. J. Schladt, Jan. 1931.

Study of Use of Nodular Aluminum from Reynolds Metals Company, by A. Strasser, TR1171, May 1942, DDC-X5620.

PICATINNY ARSENAL (cont'd)

- Study of the Use of Thermite Type Compositions as Pyrotechnic Illuminants*, by W. H. Rinkenbach, G. J. Schladt, TR128, Sept. 1931, DDC-TIP U70217, DDC-AD 103 510.
- Substitute for Pyrotechnic Parachute Silk*, by S. Livingston, TR136, Sept. 1931, DDC-TIP U70224. Same by W. Anderson, TR636, June 1935, DDC-TIP U70493.
- Substitutes for Potassium Perchlorate in Pyrotechnic Compositions*, First Progress Report, TR1222, Dec. 1942, DDC-X1222. Same by L. H. Eriksen, TR1321, Aug. 1943, DDC-X4408. Same by L. H. Eriksen, O. E. Sheffield, TR1408, Mar. 1944, DDC-X4480. Same by L. H. Eriksen, TR1426, June 1944, DDC-X4495.
- Substitutes for Silk in Pyrotechnic Parachutes*, by F. V. Ludden, TR526, July 1934.
- Substitution of Aluminum for Magnesium in Illuminant Composition for the M-8A1 Flare*, by W. H. Rinkenbach, C. G. Dunkle, TR1091, June 1941, DDC-X5550, DDC-TIP U69767.
- Substitution for Potassium Perchlorate in Pyrotechnic Compositions*, by L. H. Eriksen, TR1280, Apr. 1943, DDC-TIP U71205.
- Substitution of Sodium Nitrate for Barium Nitrate and Sodium Oxalate in White Light Compositions*, by H. J. Eppig, TR1266, Mar. 1943, DDC-X4359.
- Suggested Method for Measuring Low Light Level Luminants*, by R. Davis, J. Tyroler, July 1959, DDC-AD 214 770.
- Suitability of Recovered Dow Metal Powder in Pyrotechnic Compositions*, by C. G. Dunkle, TR1116, Sept. 1941, DDC-TIP U69789.
- Suitability of Reynolds Metals Aluminum, Types D-3 and D-12, as Substitutes for Grade B Aluminum in Illuminant Compositions for the AN-M26 Flare*, by L. H. Eriksen, TR1341, Sept. 1943, DDC-TIP U71252.
- Suitability of Secondary Aluminum Powder for Use in Pyrotechnic Compositions*, by W. J. Wiswesser, TR1177, June 1942, DDC-X5624.
- Summary of Foreign Manufactured Ordnance Items Examined at Picatinny Arsenal, from 1 July 1953 to 30 June 1954*, by R. C. Schofield, TR2068, Nov. 1954, DDC-AD 47 990.
- Summary Report Covering the Availability of Battlefield Illumination Devices and Night Vision Aids*, by S. Resnick, L. J. Frey, Jr., S. H. Cohen, Dec. 1962.
- Surveillance Study of Nickel-Zirconium Type Delay Powder for M205 Hand Grenade Fuze*, by M. T. Hedges, T. I. Mahler, TR1952, Aug. 1953, DDC-AD 17 143.
- Surface Active Agents as an Aid in Blending Pyrotechnic Compositions*, by C. Campbell, Jr., W. J. Nolan, TR2172, May 1955, DDC-AD 63 717.
- Survey of Sensitivity Characteristics of Typical Delay, Igniter, Flash, and Signal Type Pyrotechnic Compositions*, by J. Kristal, S. M. Kaye, TM1316, Apr. 1964, AMCMS 5522.11.558, DA 1C 52380/A302, DDC-AD 222 993.
- Surveillance Test on M3 Aircraft Parachute Flare*, by J. H. Robinson, TR1011, Nov. 1939, DDC-TIP U69689.
- Surveillance Test of M8 Flares of Lot 1351-11 under Accelerated Storage Conditions*, by J. H. Robinson, TR908, Aug. 1938, DDC-TIP U70757.
- Surveillance Tests, Cartridge, Photoflash M112*, by C. Knapp, S. Lopatin, R. Schiffman, PL-C-TN 1, June 1957.
- Surveillance Tests on M16A1 Primer Detonators Containing Type I, Class B Delay Powder*, by J. E. Osmun, TR1546, July 1945.
- Surveillance Tests of 37mm Red Tracers (Incomplete)*, by H. S. Eroo, TR703, Feb. 1936, DDC-TIP U70568.
- Survey of Available Literature on the Rapid Combustion of Metals in Air (A...)*, by S. Haffner, TR2061, Sept. 1954, DDC-AD 44 543.
- Symposium on Basic Pyrotechnics Research, Abstracts of Papers*, Feb. 1957, DDC-TIP U58312.

PICATINNY ARSENAL (cont'd)

Temperature Stable 1000 Cycle Oscillator (A . .), by D. L. Dickerson, M. Lazarus, June 1964.

Ternary Mixtures of Chromic Oxide-Boron-Barium Chromate as Delay Compositions, by B. Werbel, PL-C-TN-22, Apr. 1958.

Ternary Mixtures of Chromic Oxide-Boron-Barium Chromate as Delay Compositions, by B. Werbel, PL-C-TN-22, Apr. 1958.

Test of Cover and Reinforcing Ring of the Improved M8 Flare, by H. S. Eroo, TR689, Feb. 1936, DDC-TIP U70556.

Test of Flare Suspension Bands, by L. F. Young, TR488, Mar. 1934, DDC-TIP U70053; TR505, May 1934, DDC-TIP U70366.

Test of M8 Flare Suspension Bands, by H. S. Eroo, TR540, Sept. 1934.

Test of Fuze Powders in M-54 Time Fuze, by R. W. Scharf, TR1097, June 1941, DDC-TIP U69773.

Test of German Colored Smoke Signals, by J. M. King, TR338, Mar. 1933, DDC-TIP U70099.

Test of Hand Held Rocket Type Distress Signals (T66 Type Modified), Resubmitted by A Company and B Company, by H. S. Eroo, TR-1706, Nov. 1948; TR-1734, May 1949.

Test of High Altitude Hand Held Rocket Type Distress Signals (T66 Type Modified) Submitted by A Company and B Company, by H. S. Eroo, 30 Nov. 1948.

Test of New Type M8 Flare Suspension Bands, by H. S. Eroo, TR650, Sept. 1935, DDC-TIP U70526.

Test of New Type M8A1 Flare Suspension Bands. Strength Tests of New Type M8A1 Flare Suspension Band Assemblies with Formed Locating Stops, by J. H. Robinson, TR878, 15 Feb. 1938, DDC-TIP U70728.

Test of New Type M8 Flare Suspension Bands. Test of Strengthened New Type M8 Flare Suspension Band Assemblies, by H. S. Eroo, TR697, Apr. 1936, DDC-TIP U70562. Same by H. S. Eroo, TR775, Dec. 1936.

Test Report of Dynamic Tests for Infrared and Visible Light Measurements on Two Types of Caliber .50 Spotter-Tracer Ammunition, by J. L. Wright, Sept. 1961.

Tests of Granular Magnesium Powder in Pyrotechnic Compositions, by W. H. Rinkenbach, G. J. Schladt, TR1073, Mar. 1941, DDC-TIP U69749.

Theory of Rates of Propagative Burning for Systems which Undergo Crystalline Transitions and Changes in State, by E. S. Freeman, G. Weingarten, TR-2596.

Thermal Analysis of D-16 Delay Powders, by S. Lopatin, PL-C-TN-5, Aug. 1957, DDC-AD 111 789.

Thermal Parameters Associated with Ignition of the Magnesium-Barium Nitrate System, by M. Gilford, S. Gordon, FRL-TN-43, Mar. 1960, DDC-AD 234 323.

Thermal Parameters Associated with the Ignition of the Magnesium-Sodium Nitrate System, by M. Gilford, S. Gordon, G. Weingarten, TN 27, Aug. 1958, DDC-AD 212 848.

Thermal Theory for Rates of Propagative Burning (A . .), by E. S. Freeman, G. Weingarten, TR2596, June 1959, DDC-AD 218 171.

Thermoanalysis of Binary Systems $KClO_4$ /Alkali and Alkaline Earth Metal Nitrates, by V. D. Hogan, S. Gordon, Sept. 1959.

Thermoanalysis of Pyrotechnic Systems: Magnesium, Barium Chlorate, Saran or KEL-F, and Laminac, by E. Crane, S. Gordon, TN-33, Aug. 1959.

Thermoanalytical Characterization of Several Quinol Clathrate Compounds, by M. Gilford, S. Gordon, TN41, Mar. 1960, DDC-AD 234 847.

PICATINNY ARSENAL (cont'd)

- .. *Thermoanalytical Study of Binary Oxidant Systems. I. Potassium Perchlorate-Barium Nitrate (A..)*, by V. D. Hogan, S. Gordon, PL-C-TN-17, Mar. 1958, DDC-AD 161 791.
- .. *Thermoanalytical Study of Binary Oxidant Systems. II. Barium Perchlorate-Potassium Nitrate (A..)*, by V. D. Hogan, S. Gordon, PL-C-TN-18, Apr. 1958, DDC-AD 157 635.
- .. *Thermoanalytical Study of the Binary Oxidant Systems of Potassium Perchlorate Selected Alkali and Alkaline Earth Metal Nitrates (A..)*, by V. Hogan, S. Gordon, TR-2608.
- .. *Thermoanalytical Study of the Ignition and Combustion Reactions of Black Powder (A..)*, by C. Campbell, G. Weingarten, PL-C-TN 27, June 1958, DDC-AD 207 077.
- .. *Thermoanalytical Study of the Reciprocal System $2KNO_3 + BaCl_2, 2KCl + Ba(NO_3)_2$, (A..)*, by V. Hogan, S. Gordon, 1960.
- Titan Flash Cartridge*, by J. W. Leach, Oct. 1961.
- Tolerances Permissible in the Percentage Composition of Type III Class A, Photoflash Powder*, by S. F. Sarner, TR2074, Oct. 1954, DDC-AD 46 683.
- Use of the Bahco Micro Particle Classifier in Separating a Narrow Micron Range Sample of Atomized Aluminum*, by A. Taschler, PL-C-TN-28, July 1959, DDC-AD 215 359.
- .. *Trial on the Screening of Back Areas from Air Observation (Report on..)*, by W. R. Galwey, PR629, Sept. 1928.
- Type 47 Red Smoke Tracking Flare*, by J. H. Allison, Nov. 1961.
- .. *Use of Aluminum Powder Tailings in Pyrotechnic Compositions (The..)*, by H. J. Eppig, O. E. Sheffield, TR1397, Mar. 1944, DDC-X4472, DDC-AD 170 877.
- Use of Atomized Magnesium in Flare and Signal Compositions*, by A. Strasser, TR1186, Aug. 1942, DDC-TIP U71271.
- .. *Use of Differential Thermal Analysis for Investigation of the Effect of High Energy Radiation on Crystalline Ammonium Perchlorate (The..)*, by E. S. Freeman, D. Anderson, M-33, Aug. 1959.
- Use of Flake Magnesium in Flare and Signal Compositions*, First Progress Report, TR1227, Jan. 1943. Same by O. E. Sheffield, TR1301, June 1943, DDC-TIP U71216.
- Use of 65/35 Magnesium-Aluminum Alloy in Photoflash Powders*, by H. J. Eppig, TR1356, Oct. 1943, DDC-TIP U70847.
- Use of Polyvinyl Chloride in Compositions for Flares, Ground, T9, and T12*, by O. E. Sheffield, TR1545, July 1945, DDC-X4581.
- Use of Potassium Perchlorate in Composition the Signal, Aircraft, Red Star Parachute, M-11*, by W. H. Rinckenbach, G. J. Schladt, TN1095, June 1941, DDC-X5554, DDC-TIP U69771.
- US-UK-Canada TTCP Report of Working Group #5 Pyrotechnics*, by S. Sage, June 1961.
- Volumetric Loader for Non-Flowing Powders*, by E. Jescezerewski, DB-TR 3-58, Mar. 1958, DDC-AD 155 149.
- Warhead, 762mm Rocket, Flash Smoke, XM38*, by S. Gordon, G. Hromiak, J. Andrews, Sept. 1959.
- Warhead Section, Practice, 318mm Rocket, Flash Smoke, XM8*, by E. Blackman, J. Andrews, Dec. 1959.
- White Smoke Composition for Fuze, Mine, AT, Practice, M604*, by C. A. Knapp, G. Weingarten, TR2285, July 1956, DA Proj. None, Ord. Proj. PA-3-3, DDC-AD 100 771.
- White Smoke Compositions for Use in the 105mm T107E2 White Smoke Shell*, by E. D. Crane, B. Werbel, May 1962.
- .. *Working Party No. 23, (Air Pyrotechnics) (Report of 3rd Meeting..)*, Apr. 26 to May 7, 1954, DDC-TIP C5998; *(Report of 4th Meeting..)*, 28 May to 1 June 1956, DDC-TIP C46541.

AMCP 706-189

PITMAN-DUNN LABORATORIES Philadelphia, Pennsylvania See: FRANKFORD ARSENAL.

PRINCETON UNIVERSITY

*Basic Research in Physical and Chemical Kinetics
Related to Problems of Combustion and Propul-
sion*, TR-59-174, Nov. 1959, DDC-AD 231 830.

*Stability of Propellants and the Theory of
Thermal Ignition*, by I. Glassman, R-460,
AFOSR TN 59-586, May 1959, DDC-AD 217
185.

Staircase Methods of Sensitivity Testing, by T. W.
Anderson, NAVORD 65-46, Mar. 1946, DDC-
TIP U55107.

*Statistical Analysis for a New Procedure in Sensi-
tivity Experiments*, R-4040, July 1944.

REDEL, INC.

*Mechanistic Studies of Conductive Film Ignition,
Reports:*
GPR-1, Aug. 1958, DDC-AD 303 102.
GPR-2, Nov. 1958, DDC-AD 304 638.
GPR-3, Feb. 1959, DDC-AD 308 779.
GPR-4, May 1959, DDC-AD 306 209.

REDSTONE ARSENAL Huntsville, Alabama

*Compilation of Data on Army, Navy, and Com-
mercial Standard Electric Squibs*, by R. E.
Betts, 3J14N1, Jan. 1956.

*Investigation of Possible Improvement in Rocket
Ignition*, by M. Gallagher, TR-2, Sept. 1953,
DDC-AD 37 539.

Metal-Oxidant Igniter Materials, by S. Zeman,
Rocket Development Laboratories.

REMINGTON ARMS COMPANY, INC. Bridgeport, Connecticut

*Development of Cal. .60 High Explosive and In-
cendiary Bullets*, by G. O. Clifford, Final Re-
port, July 1945.

RESIN RESEARCH LABORATORIES, INC.

*Investigation of New Type Polymers to be Used
in Pyrotechnic Fuels for Thermal Dissemination
of Agents*, R-984, Aug. 1963, DDC-AD 416 033.

ROHM AND HAAS COMPANY Philadelphia, Pa.

*All Purpose Metal-Oxidant Ignition System
(An...)*, by D. L. Kilbourn.

SHARPLES CORPORATION RESEARCH LABORATORIES 424 W. 4th St., Bridgeport, Pennsylvania

Particle Size Distribution Analysis, Bull. 101, The
Sharples Micromerograph.

SHELL DEVELOPMENT COMPANY

Study of Mechanized Flame Throwers, by R. D.
Dawson, May 1943, DDC-ATI 33 260; July 1943,
DDC-ATI 33 258; Aug. 1943, DDC-ATI 31 965.

SOUTHWEST RESEARCH INSTITUTE

Studies in Ignition, by F. A. Warren, R. J. Martin,
J. H. Wiegand, TR-9, Project 7-361-A, Feb. 1956.

STANFORD RESEARCH INSTITUTE Palo Alto, California

High Temperature—A Tool for the Future, Pro-
ceedings of Symposium, 1956.

STANFORD UNIVERSITY Palo Alto, California

*Investigation of the Ignition Temperature of
Solid Metals (An...)*, by W. C. Reynolds, June
1957.

SYLVANIA ELECTRIC PRODUCTS, INC.

*Infrared Flash MX-1218 90/DA, Photoflash Lamp
Study*, Final Report, Sept. 1953.

TACTICAL AIR COMMAND

Langley Air Force Base, Virginia

Parachute Flare Evaluation, by I. L. Kimes, Jr., AFSAWC TDR 63, Aug. 1963, DDC-AD 416 217.

TANK DESTROYER BOARD

See: ARMY TEST AND EVALUATION COMMAND.

TEMPLE UNIVERSITY

Philadelphia, Pennsylvania

Combustion of Metals (The ...), by A. V. Grosse, J. B. Conway, Project N9-ONR-87301, Oct. 1951.

Office of Naval Research High Temperature Project, by A. V. Grosse, J. B. Conway, Final Report, July 1954.

Powdered-Metal Flames, by J. B. Conway, A. V. Grosse, TR ONR Contract N9-ONR-87301, DDC-AD 20 972.

TEMPO, INC.

Production Engineering Study of 105mm, M314A2 Illuminating Shell, by D. F. Salmon, June 1957, DDC-AD 201 190.

TEXAS, UNIVERSITY OF

Preliminary Thermodynamic Calculations on Various Fuels and Related Compounds, by R. C. Anderson, L. F. Hatch, W. A. Felsing, UT/DRL 62, June 1946, DDC-ATI 198.

THIOKOL CHEMICAL CORPORATION

Elkton, Maryland

Ageing of T-207 Rocket Motor with Model "D" Igniter, by J. Pelham, RN-30-54, Aug. 1954, DDC-AD 39 488.

Development of Improved Ignition System for the T2008 Rocket Motor, by J. E. Pelham, RN-36-55, Oct. 1955, DDC-AD 80 646.

Development of Improved Loading Methods for T-6 Delay Elements, Contract DA-1-49-186-502-ORD-P-362, Sept. 1956.

Development of Metal Powder-Oxidizer Compositions for Ignition of Polysulfide-Perchlorate Propellants, by E. C. Ricks, W. R. Ignatius, RN-9-52, DDC-AD 10 550.

Development of a Modified Ignition System for High Altitude Performance of the M7A1 Rocket Motor (Final Report on the ...), by R. P. King, RN-14-59, May 1959, DDC-AD 307 067.

Development of New and Improved Fuel Blocks for Thermal Generation, by A. Irwin. Reports: RN-E3-55, Jan. 1955, DDC-AD 57 544.

Feb. 1955, DDC-AD 57 637.

RN-E5-55, May 1955, DDC-AD 68 862.

RN-E14-55, June 1955, DDC-AD 79 377.

RN-E6-56, Mar. 1956, DDC-AD 90 085.

Development of New and Improved Solid Fuel Blocks for Thermal Generation, by A. Irvin, R-2, CML ETF 248-3/2, Contract DA-18-108-CML-5376, July 1954, DDC-AD 310 108.

Development of a Reduced-Debris Igniter System for Small Air to Air Rockets, by J. E. Pelham, R. P. King, RN 3-56, May 1956.

Quarterly Progress Reports:

RN-5-54, Sept. 1954

RN-17-55, Mar. 1955

RN-5-55, June 1955

RN-1-56, Apr. 1956, DDC-AD 88 955

RN-10-56, June 1956

RN-21-56, June 1956, DDC-AD 115 414

RN-33-56, Sept. 1956, DDC-AD 122 737

RN-20-57, Mar. 1957, DDC-AD 134 847

RN-50-58, Sept. 1958

RN-20-59, Mar. 1959

UNITED RESEARCH SERVICES

Burlingame, California

Feasibility of Active Countermeasures for Thermal Effects of Nuclear Weapons, by T. C. Goodale, M. B. Hawkins, A. B. Willoughby, Final Report, Contract OCD OS 62 242, July 1963, DDC-AD 412 733.

AMCP 706-189

U.S. FLARE CORPORATION

Sun Valley, California (Subsidiary of Atlantic Research Corporation)

Design and Development and Fabrication of Igniter for 3.5-inch Rocket, by R. Smith, Mar. 1954, DDC-AD 31 569.

Design and Development of 60mm Illuminating Shell, T213, by J. R. McGibbeny, Aug. 1955, DDC-AD 74 630.

Design and Development of Improved Tracer for Tank Gun Ammunition, by G. F. Gerth, Apr. 1955, DDC-AD 66 467
May 1955, DDC-AD 66 734
June 1955, DDC-AD 70 090
July 1955, DDC-AD 70 814.

Development of Simm, Illuminating Shell T214E2, Oct. 1958, DDC-AD 206 977.

U.S. FORCES, ETO

Department of Defense, Washington, D. C. See: MISCELLANEOUS DOCUMENTS.

UNIVERSAL MATCH CORPORATION

St. Louis, Missouri

Airborne Infrared Countermeasures, Final Report, UMC 875, Feb. 1959, DDC-AD 306 541.

Conference on High Altitude and High Velocity Ignition and Sustained Burning of Pyrotechnics, Dec. 1955.

Design and Development of 7- and 60-second Delay Switch, 1958.

Design and Development of Simulator Illuminating Shell, T83E1, by R. Hopkins, Final Report, Apr. 1954, DDC-AD 31 934.

Design and Development of a Spotting Charge for Bombs with Conical Fins, Proj. TA2-2050, by H. C. Pitt, June 1956, DDC-AD 98 571. Same, May 1956, DDC-AD 97 580.

Design and Development of a Torpedo, Signaling, Railway, T2, Project TA-29291F,

June 1954, DDC-AD 60 557

July 1954, DDC-AD 60 558

Aug. 1954, DDC-AD 60 559

Sep. 1954, DDC-AD 60 560

Nov. 1954, DDC-AD 60 971

Feb. 1955, DDC-AD 61 779

Determination of Heat Powder Parameters, by I. Kowarsky:

Mar. 1954

Apr. 1954, DDC-AD 32 515

May 1954, DDC-AD 36 780

June 1954, DDC-AD 32 284

Development of Gasless Heat Powders, by O. J. Buckheim:

July 1956, DDC-AD 119 850

Oct. 1956, DDC-AD 115 919

Jan. 1957

Apr. 1957, DDC-AD 133 586

Oct. 1958

Jan. 1959, DDC-AD 159 558

Extruded Ignition Materials, by P. G. Boylman, Sept. 1957, DDC-AD 146 711.

Fuze Explosive Trains:

June 1956

Jan. 1957, DDC-AD 138 495

Sep. 1957

Nov. 1957, DDC-AD 147 922

Jan. 1958, DDC-AD 154 333

Feb. 1958, DDC-AD 157 828

Apr. 1958

May 1958, DDC-AD 162 335, DDC-AD 301 266

June 1958, DDC-AD 301 267

July 1948, DDC-AD 302 987, DDC-AD 306 283

Sep. 1948

Fuze Explosive Trains:

Apr. 1959

July 1959, DDC-AD 312 673

Aug. 1959

Dec. 1959, DDC-AD 315 482

Jan. 1960, DDC-AD 317 011

Heat Powder, FZ-31, Non-Gaseous, July 1954, DDC-AD 34 732.

Performance Test under Laboratory Conditions of LAU-25/A (XN-1) Flare Launcher Ejection System, TR-102-10, Dec. 1961, DDC-AD 270 498.

UNIVERSAL MATCH CORPORATION (cont'd)

Research and Development of Improved Igniter Materials, Feb. 1960.

Research on Infrared Flare:

Aug. 1955, DDC-AD 80 315
 Nov. 1955
 Apr. 1956, DDC-AD 92 111
 May 1956
 July 1956, DDC-AD 100 559
 Jan. 1957, DDC-AD 125 981

Research Investigations of Heat Powders, by O. J. Buckheim:

Apr. 1958
 July 1958, DDC-AD 303 960
 Oct. 1958, DDC-AD 305 490
 Jan. 1959, DDC-AD 308 988
 Apr. 1962, DDC-AD 59 558

Shell, Illuminating, 105mm, T107E1; Shell, Propaganda, 105mm, T107; Shell, Colored Marker, 105mm, M1:

Jan. 1955, DDC-AD 53 225
 Apr. 1955
 May 1955, DDC-AD 66 551
 June 1955, DDC-AD 70 721
 July 1955, DDC-AD 72 303
 Aug. 1955, DDC-AD 72 307
 Sep. 1955, DDC-AD 73 722
 Oct. 1955, DDC-AD 76 415
 Nov. 1955, DDC-AD 80 569
 Dec. 1955, DDC-AD 83 358
 Jan. 1956
 Feb. 1956, DDC-AD 90 087.

Shell, Propaganda, 155mm, T72; Shell, Colored Marker, 155mm, M107:

Sep. 1955
 Nov. 1955
 Dec. 1955

UTAH UNIVERSITY

Thermodynamic Data and Bond Energies for Some Boron Compounds, by D. H. Pack, G. R. Hill, MCC-1023-TR-169, June 1955, DDC-AD 103 146.

WAR DEPARTMENT

Sec: DEPARTMENT OF ARMY.

WATERTOWN ARSENAL

Watertown, Massachusetts *Sec:* ARMY MATERIALS RESEARCH AGENCY.

WESLEYAN UNIVERSITY

Aerial Photograph Flash Powders, Composition and Use, by C. R. Hoover, NDRC G-68, Final Report, Feb. 1942.

Apparatus and Methods for the Study of Photoflash Bomb Explosions, by G. A. Hill, et al., OSRD 6333, Nov. 1945.

Cinema Spectrograph (A...), by H. A. Wadman, ORD 1949-8, May 1949.

Cinema Spectrograph, II, by H. A. Wadman, ORD 1950-6, June 1950.

Color Value Meter (A...), by H. S. Moran, M. G. M. Clarke, ORD 1949-7, May 1949.

Color Value Meter, II, by H. S. Moran, ORD 1950-5, June 1950.

Colored Smokes, by W. C. Nelson, ORD 1948-5, Nov. 1947.

Colored Smokes, II, by W. C. Nelson, ORD 1948-8, May 1948.

Colored Smokes, by C. E. Slimowicz, W. C. Nelson, ORD 1951-3, June 1951.

Colored Smokes Measurement Techniques and Methods, by W. C. Nelson, C. E. Slimowicz, R. G. Clarke, M. G. M. Clarke, WU 1949-9, May 1949, DDC-AD 161 649.

Comparison of Electronic and Pyrotechnic Flashes (A...), by B. W. Smith, Jr., TN 48, Aug. 1954, DDC-AD 37 115.

Determination of Metallic Aluminum in Atomized Powders, by J. E. McKeon, A. M. Barba, W. C. Nelson, ORDWES TN 54, Sept. 1954.

Determination of the Relative Spectral Sensitivity of Phototubes, by H. S. Moran, ORDWES TN 34, Sept. 1953.

Development of the Photoflash Bomb, by M. G. M. Clarke, ORDWES 1949-5, Apr. 1949.

WESLEYAN UNIVERSITY (cont'd)

- Dyeing of Magnesium*, by A. M. Barba, W. C. Nelson, E. C. Slimowicz, TN-9, May 1951, DDC-ATI 129 265.
- Flash Bomb (T-6E1..)*, by G. A. Hill, R. G. Clarke, NDRC-432, Dec. 1944.
- Flash Bombs*, Mar. 1953.
- Flash Cartridge (Special Report, T-10..)*, by G. A. Hill and R. G. Clarke, Apr. 1945.
- Further Development of the Original Design: Theory and Testing of an Improved Model II Design*, by C. G. Ford, et al., ORDWES 1949-1, Nov. 1948.
- Ground Illumination Produced by the O-69 Flash Bomb at Various Heights and Aspect Angles*, by C. G. Ford, H. S. Moran, AFTN 19, Nov. 1951.
- Haze and its Effect on Night Aerial Photography*, Feb. 1953.
- High Speed Motion Picture Camera, I. Theoretical Consideration: Experimental Model (A..)*, by C. G. Ford, W. P. Senett, L. A. Scholz, R. G. Clarke, ORD 1948-2.
- High Speed Motion Picture Camera, II. Further Development of the Original Design: Theory and Testing of an Improved Model II Design (A..)*, by C. G. Ford, R. G. Clarke, R. S. Kardas, C. O. Frost, ORD 1949-1, Nov. 1948.
- High Speed Motion Pictures of Air Burst Flash Bombs: Special Report on Tests Run at Ottawa*, by G. A. Hill, R. G. Clarke, Oct. 1945.
- Illumination of Vertical Surfaces, (The..)*, Mar. 1950.
- Improvement of Photoflash Bombs*, by G. A. Hill, R. G. Clarke, OSRD 2010, Nov. 1943.
- Index to Quarterly Reports and Technical Notes*, AF 1951-4, Oct. 1951.
- Ion Exchange Purification of Samples for Chemical Analyses of Trace Elements*, by R. U. Robinson, ORD 1951-4, Sept. 1951.
- Late Experimental Work (Final Report on..)*, by G. A. Hill, R. G. Clarke, NDRC, Oct. 1945.
- Low Altitude Night Photography: The Position of Illuminant*, by R. G. Clarke, ORDWES TN 42, July 1954.
- Magnesium Burner II: Fuels*, by H. S. Moran, R. S. Kardas, A. M. Barba, W. C. Nelson, AFTN 23, Oct. 1952.
- Magnesium Burner—Uses Other Than Photographic (The..)*, May 1951.
- Mechanical Time Fuzes*, by H. A. Wadman, A. J. Coutu, R. S. Eastman, ORDWES TN 10, May 1951, DDC-ATI 129 267.
- Mechanical Time Fuzes II*, by H. A. Wadman, A. J. Coutu, R. S. Eastman, Nov. 1951, DDC-ATI 130 443.
- Mechanical Time Fuzes III*, by H. A. Wadman, A. J. Coutu, R. S. Eastman, AFTN 17, Nov. 1951, DDC-ATI 130 442.
- Miniature Photoflash Cartridge (A..)*, by R. M. Dawson, W. C. Nelson, A. J. Coutu, R. G. Clarke, TN 53, Sept. 1954, DDC-AD 46 821.
- Night Aerial Photography, A Technical History*, by M. G. M. Clarke, G. N. Conklin, TN 51, July 1954, DDC-AD 46 595.
- Same, *Appendix IV, Supporting Documents, Electronic Flash*, TN 51.
- ORDWES Quarterly Reports*, by ORDWES Staff:
- No. 1, Feb. 1947
 - No. 2, May 1947
 - No. 3, Aug. 1947
 - No. 4, Nov. 1947
 - No. 5, Feb. 1948
 - No. 6, May 1948
 - No. 7, Aug. 1948
 - No. 8, Nov. 1948, DDC-ATI 65 525
 - No. 9, Feb. 1949
 - No. 10, May 1949
 - No. 11, Aug. 1949
 - No. 12, Nov. 1949

WESLEYAN UNIVERSITY (cont'd)

ORDWES Quarterly Rep. by ORDWES Staff:

- No. 13, Feb. 1950
- No. 14, May 1950
- No. 15, Sep. 1950
- No. 16, Dec. 1950
- No. 17, Mar. 1951
- No. 18, Sep. 1951
- No. 19, Dec. 1951
- No. 20, Mar. 1952
- No. 21, Sep. 1952
- No. 22, Dec. 1952
- No. 23, Mar. 1953

Oxidant-Fuel Compositions for Vaporizable Agents,
by W. Plaskonos, CML 1952-2, July 1952, DDC-AD 264 083.

Perception of Color at Small Subtense and the Specification of Subjective White (The...), by J. H. Taylor, ORD 1949-4, Mar. 1949.

Photoflash Bomb II: Technical Developments in 1947-9; Preliminary Theoretical Treatments (The...), by R. G. Clarke, C. G. Ford, May 1949.

Photoflash Bomb III: The Casing and the Dust Charge, Infrared Radiation from Flashes (The...), by R. G. Clarke, ORD 1950-4, June 1950.

Photoflash Bomb, IV (The...), by W. C. Nelson, R. W. Stallbaum, R. G. Clarke, ORD 1953-2, June 1953.

Photoflash Bomb, IV. The Effects of Cast and Hand Packed Bursters. Spherical Versus Cylindrical Types. Powdered Iron as an Additive, Oxidant Segregation (The...), by R. G. Clarke, W. C. Nelson, R. W. Stallbaum, ORD 1951-2, June 1951, DDC-AD 51317.

Photoflash Bomb, V (The...), by W. C. Nelson, R. W. Stallbaum, ORD 1952-2, June 1952.

Photoflash Bomb, VI (The...), by W. C. Nelson, R. W. Stallbaum, R. G. Clarke, ORD 1953-2, June 1953.

Photoflash Bomb Types, by W. C. Nelson, TN-52, Sept. 1954, DDC-AD 39 933.

Photoflash Powders, I, by A. M. Barba, TN-28, Mar. 1953, DDC-AD 4689.

Photoflash Powders, II, by A. M. Barba, TN-38, Jan. 1954, DDC-AD 24 732.

Photometric Instruments for Photoflash Study: Light Pulse Photometers and Integrator, by H. S. Moran, ORD 1949-10, May 1949.

Physics of Night Aerial Photography,

Oct. 1949

Apr. 1950

July 1951

Oct. 1951

Jan. 1953

Apr. 1953

Oct. 1953

Dec. 1953

Jan. 1954

Mar. 1954, AF 1954-1, DDC-AD 27 190

June 1954, AF 1954-2, DDC-AD 33 623.

Pyrotechnics Project, by R. G. Clarke, NDRC, July 1945.

Results of Tests on Modified M-46 and M-60 Photoflash Bombs, by G. A. Hill, R. G. Clarke, OSRD 2095, Dec. 1943.

Segregated Photoflash Bomb (The...), by R. W. Stallbaum, A. M. Barba, R. M. Dawson, W. C. Nelson, C. E. Slimowicz, R. G. Clarke, AFTN 20, Dec. 1961, DDC-AT1 130 431.

Sensitivity of the O-69 Flash Bomb to Bullet Impact, by A. M. Barba, R. W. Stallbaum, AFTN 13, Oct. 1951.

Shockwave Photoflash Bomb (The...), by C. G. Ford, W. P. Senett, ORDWES 1946-1, July 1946.

Small Scale Photography, Apr. 1953.

Subject Index to ORDWES Reports, ORD-1946-1 through ORD-1953-2, by M. G. M. Clarke, June 1953.

Test Data for T-12 Flash Cartridges, by R. G. Clarke, Part 1, Aug. 1947; Part 2, June 1948.

WESLEYAN UNIVERSITY (cont'd)

.. Tests with Full Size Photoflash Bombs, 20-22 April 1943 (Report of ..), by G. A. Hill, R. G. Clarke, with BRL, 1943.

Tests of Photoflash Bombs, by G. A. Hill, R. G. Clarke, OSRD 5457, Aug. 1945.

Tests Run at Eglin Field, June 5, 1944, by G. A. Hill, R. G. Clarke, June 1944.

Theory of the Photoflash Bomb I: Dispersal of the Flash Cloud, by R. G. Clarke, TN 43, July 1954, DDC-AD 35 720.

Theory of the Photoflash Bomb II: The Time-Temperature Curve of the Flash, by R. G. Clarke, TN 44, July 1954, DDC-AD 35 981.

Theory of the Photoflash Bomb III: The Time-Intensity Curve, by R. G. Clarke, TN 45, July 1954, DDC-AD 35 982.

Theory of the Photoflash Bomb IV: The Segregated Flash as a Black Body Radiator, by R. G. Clarke, ORDWES TN 49, Aug. 1954.

.. Time Required to Burst Flash Bombs (Report concerning ..), by G. A. Hill, R. G. Clarke, Sept. 1943.

Underwater Flares, by G. A. Hill, R. G. Clarke, OSRD-1522, June 1943, DDC-ATI 31 558.

Wesleyan Pyrotechnics Survey, Final Report, Feb. 1946.

WHITE SANDS MISSILE RANGE

New Mexico *See*: **ARMY TEST AND EVALUATION COMMAND.**

WRIGHT AIR DEVELOPMENT CENTER

Wright-Patterson Air Force Base, Ohio *See*: **AIR TECHNICAL SERVICE COMMAND.**

ENGINEERING DESIGN HANDBOOK SERIES

Listed below are the Handbooks which have been published or submitted for publication. Handbooks with publication dates prior to 1 August 1962 were published as 20-series Ordnance Corps pamphlets. AMC Circular 310-38, 19 July 1963, redesignated those publications as 706-series AMC pamphlets (i.e., ORDP 20-138 was redesignated AMCP 706-138). All new, reprinted, or revised Handbooks are being published as 706-series AMC pamphlets.

<u>General and Miscellaneous Subjects</u>		<u>Ballistic Missile Series</u>	
No.	Title	No.	Title
106	Elements of Armament Engineering, Part One, Sources of Energy	281(S-RD)	Weapon System Effectiveness (U)
107	Elements of Armament Engineering, Part Two, Ballistics	282	Propulsion and Propellants
108	Elements of Armament Engineering, Part Three, Weapon Systems and Components	283	Aerodynamics
110	Experimental Statistics, Section 1, Basic Concepts and Analysis of Measurement Data	284(C)	Trajectories (U)
111	Experimental Statistics, Section 2, Analysis of Enumerative and Classificatory Data	286	Structures
112	Experimental Statistics, Section 3, Planning and Analysis of Comparative Experiments	<u>Ballistics Series</u>	
113	Experimental Statistics, Section 4, Special Topics	140	Trajectories, Differential Effects, and Data for Projectiles
114	Experimental Statistics, Section 5, Tables	150	Interior Ballistics of Guns
121	Packaging and Pack Engineering	160(S)	Elements of Terminal Ballistics, Part One, Introduction, Kill Mechanisms, and Vulnerability (U)
134	Maintenance Engineering Guide for Ordnance Design	161(S)	Elements of Terminal Ballistics, Part Two, Collection and Analysis of Data Concerning Targets (U)
135	Inventions, Patents, and Related Matters (Revised)	162(S-RD)	Elements of Terminal Ballistics, Part Three, Application to Missile and Space Targets (U)
136	Servomechanisms, Section 1, Theory	<u>Carriages and Mounts Series</u>	
137	Servomechanisms, Section 2, Measurement and Signal Converters	340	Carriages and Mounts--General
138	Servomechanisms, Section 3, Amplification	341	Cradles
139	Servomechanisms, Section 4, Power Elements and System Design	342	Recoil Systems
170(C)	Armor and Its Application to Vehicles (U)	343	Top Carriages
250	Guns--General (Guns Series)	344	Bottom Carriages
252	Gun Tubes (Guns Series)	345	Equilibrators
270	Propellant Actuated Devices	346	Elevating Mechanisms
290(C)	Warheads--General (U)	347	Traversing Mechanisms
331	Compensating Elements (Fire Control Series)	<u>Military Pyrotechnics Series</u>	
355	The Automotive Assembly (Automotive Series) (Revised)	186	Part Two, Safety, Procedures and Glossary
		187	Part Three, Properties of Materials Used in Pyrotechnic Compositions
<u>Ammunition and Explosives Series</u>		<u>Surface-to-Air Missile Series</u>	
175	Solid Propellants, Part One	291	Part One, System Integration
176(C)	Solid Propellants, Part Two (U)	292	Part Two, Weapon Control
177	Properties of Explosives of Military Interest, Section 1	293	Part Three, Computers
178(C)	Properties of Explosives of Military Interest, Section 2 (U)	294(S)	Part Four, Missile Armament (U)
179	Explosive Trains	295(S)	Part Five, Countermeasures (U)
210	Fuzes, General and Mechanical	296	Part Six, Structures and Power Sources
211(C)	Fuzes, Proximity, Electrical, Part One (U)	297(S)	Part Seven, Sample Problem (U)
212(S)	Fuzes, Proximity, Electrical, Part Two (U)	<u>Materials Series*</u>	
213(S)	Fuzes, Proximity, Electrical, Part Three (U)	149	Rubber and Rubber-Like Materials
214(S)	Fuzes, Proximity, Electrical, Part Four (U)	212	Gasket Materials (Nonmetallic)
215(C)	Fuzes, Proximity, Electrical, Part Five (U)	691	Adhesives
244	Section 1, Artillery Ammunition--General, with Table of Contents, Glossary and Index for Series	692	Guide to Selection of Rubber O-Rings
245(C)	Section 2, Design for Terminal Effects (U)	693	Magnesium and Magnesium Alloys
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247	Section 4, Design for Projection	697	Titanium and Titanium Alloys
248	Section 5, Inspection Aspects of Artillery Ammunition Design	698	Copper and Copper Alloys
249	Section 6, Manufacture of Metallic Components of Artillery Ammunition	699	Guide to Specifications for Flexible Rubber Products
		700	Plastics
		721	Corrosion and Corrosion Protection of Metals
		722	Glass

*The Materials Series is being published as Military Handbooks (MLH-HDBK-) which are available to Department of Defense Agencies from the Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120.

